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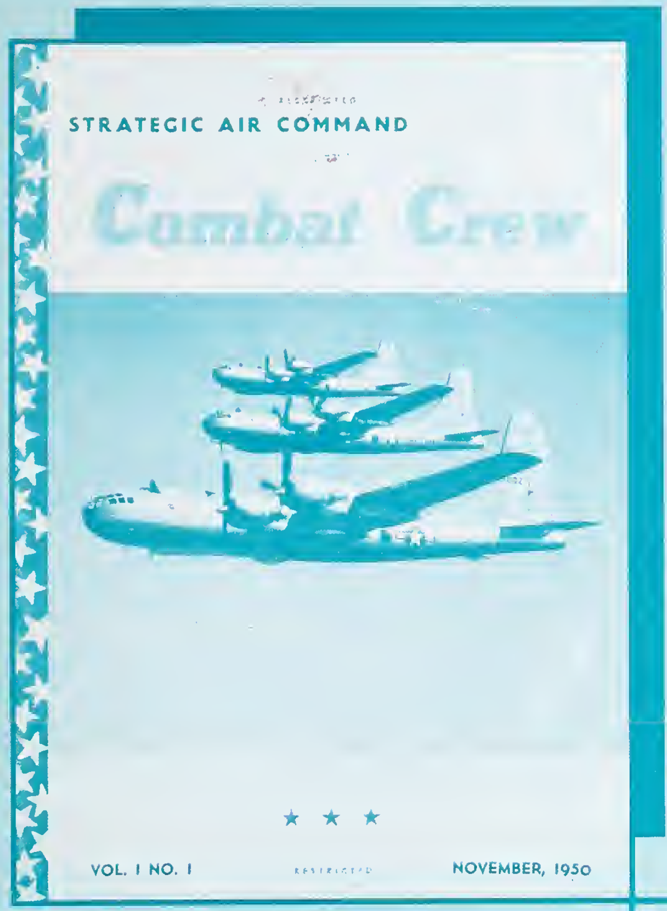


RESTRICTED

STRATEGIC AIR COMMAND

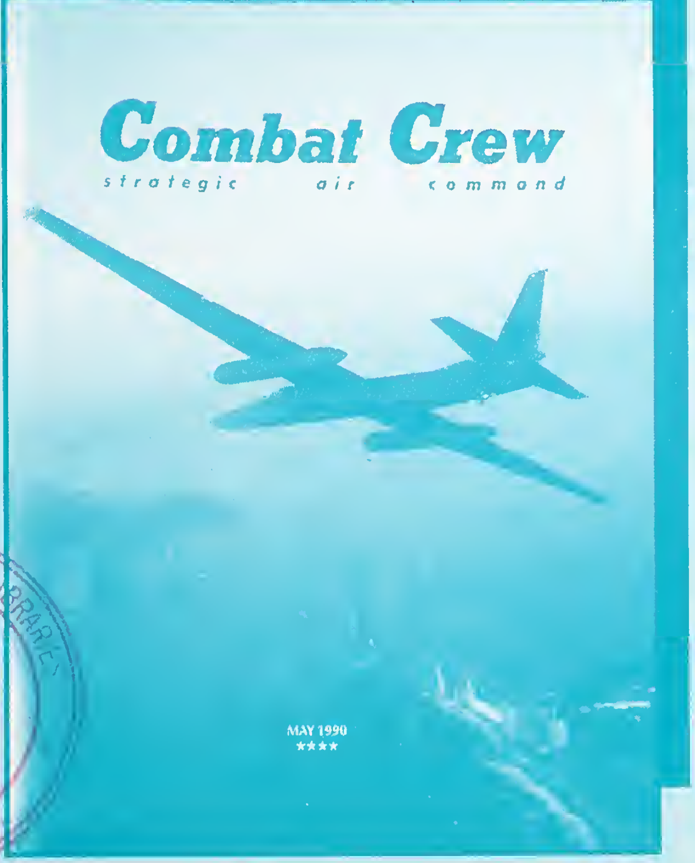
Combat Crew

VOL. I NO. I

RESTRICTED

NOVEMBER, 1950

STRATEGIC AIR COMMAND



Combat Crew

strategic air command

MAY 1990

★★★★

"Combat Crew" Celebrates It's 40th Anniversary

June 1950

★★★★

June 1990

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Combat Crew

Magazine of the Strategic Air Command—40th Year of Publication

GEN JOHN T. CHAIN JR.
COMMANDER IN CHIEF, SAC

BRIG GEN JAMES L. VICK
INSPECTOR GENERAL

COL TERRY L. WHITE
DIRECTOR OF SAFETY

EDITOR
MAJ JIM KRISTL

ASSOCIATE EDITOR
KEN MAASSEN

ART EDITOR
W. A. KIRKPATRICK

EDITORIAL ASSISTANT
M. J. ABBOUD

On Our Cover

Combat Crew celebrates the 40th anniversary of the first issue this month. Turn to page 4 for a look at Combat Crew's colorful past.

SACSP 127-1 VOL. XL NO. 6 JUNE 1990

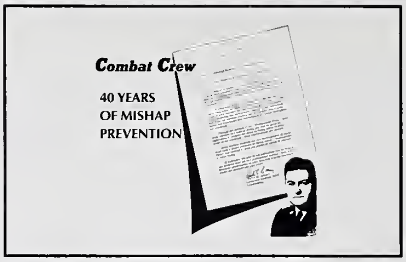
COMBAT CREW is an internal publication of the Strategic Air Command with the primary purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictitious. Written permission must be obtained from Headquarters, Strategic Air Command before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF, Distribution FX, controlled by IGFE, SAC units submit distribution requests through local PDO. Reader to copy ratio one per combat crew; 10:1 for other SAC personnel. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Contributions are encouraged as well as comments and criticism. Direct correspondence with the Editor is authorized. Address correspondence to Editor, Combat Crew, HQ SAC/IGFE Offutt AFB, NE 68113-5001 AV 271-2620/6221.

Combat Crew (ISSN 0010-213X) is published 13 times a year by the Strategic Air Command, Offutt Air Force Base, NE 68113-5001.

SACSP 127-1 is entered as a publication at the Second-Class rate (USPS No. 000-491) at Omaha Postal Service, 1124 Pacific Street, Omaha, NE 68108, and additional entries.

FEATURES



Combat Crew's 40th Year.................... 4

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From The Editor's Desk

As long as there are aircraft and crews there will be a need for a safety magazine. We mark our 40th anniversary and rededicate our purpose of educating from the pages of a magazine rather than a mishap report.

SAC IG

GET PROACTIVE!

The phrase, “Safety is Paramount,” represents an outdated concept. As SAC warriors, we need to realize that safety is not a separate entity, but rather an integral part of the mission.

Safety is essential to mission success. Putting bombs on target, preparing missiles for launch, or even replacing a window in a base facility is not enough. We cannot take credit for success if crew members don’t return, or the equipment is no longer usable. To ensure mission success, safety must be intertwined with operational execution. If you think you already do this, look at the following situations and see if you see a little of yourself in them.

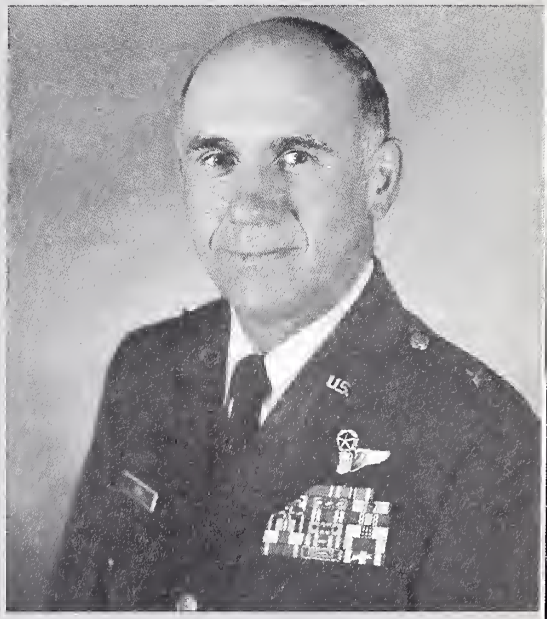
Take an aircrew that rushes to the hold line with 15 seconds left before a late takeoff, obtains clearance, pushes the throttles up and roars down the runway. Are they safe? Let’s look at a missile maintenance crew out at the site. If they don’t get this job done in the next 30 minutes, they’ll have to spend the night. So they pick up the pace and snap the tool box shut with seconds to spare. Are they safe?

The warriors in both of these situations would probably say: “We know we cut some corners, but we had to get the mission done. The mission comes first.”

The common element lacking in both of these cases is preparation. These warriors were too busy reacting to the situation to be able to properly perform their actions. Safety, however, isn’t something we do when we have extra time. Safety involves preparation. It means being **proactive.** If you don’t consider contingencies and establish your priorities before rushing to execute your mission, safety will be forgotten. If you wait for the problem to develop and then expect to handle it safely, you’re too late. A **proactive** commitment to safety means deciding what you plan to do before a problem exists. In short, anticipate!

Combat Crew is celebrating forty years of mishap prevention this month. One good **proactive** approach to your mission is to read about the experiences of others in the pages of this magazine. Learn from their errors and develop a plan should you encounter a similar situation. A **proactive** commitment to safety will intertwine with operational execution to produce smart and successful mission accomplishment. ★

Brig Gen James L. Vick
Inspector General
Strategic Air Command



40 YEARS OF MISHAP PREVENTION

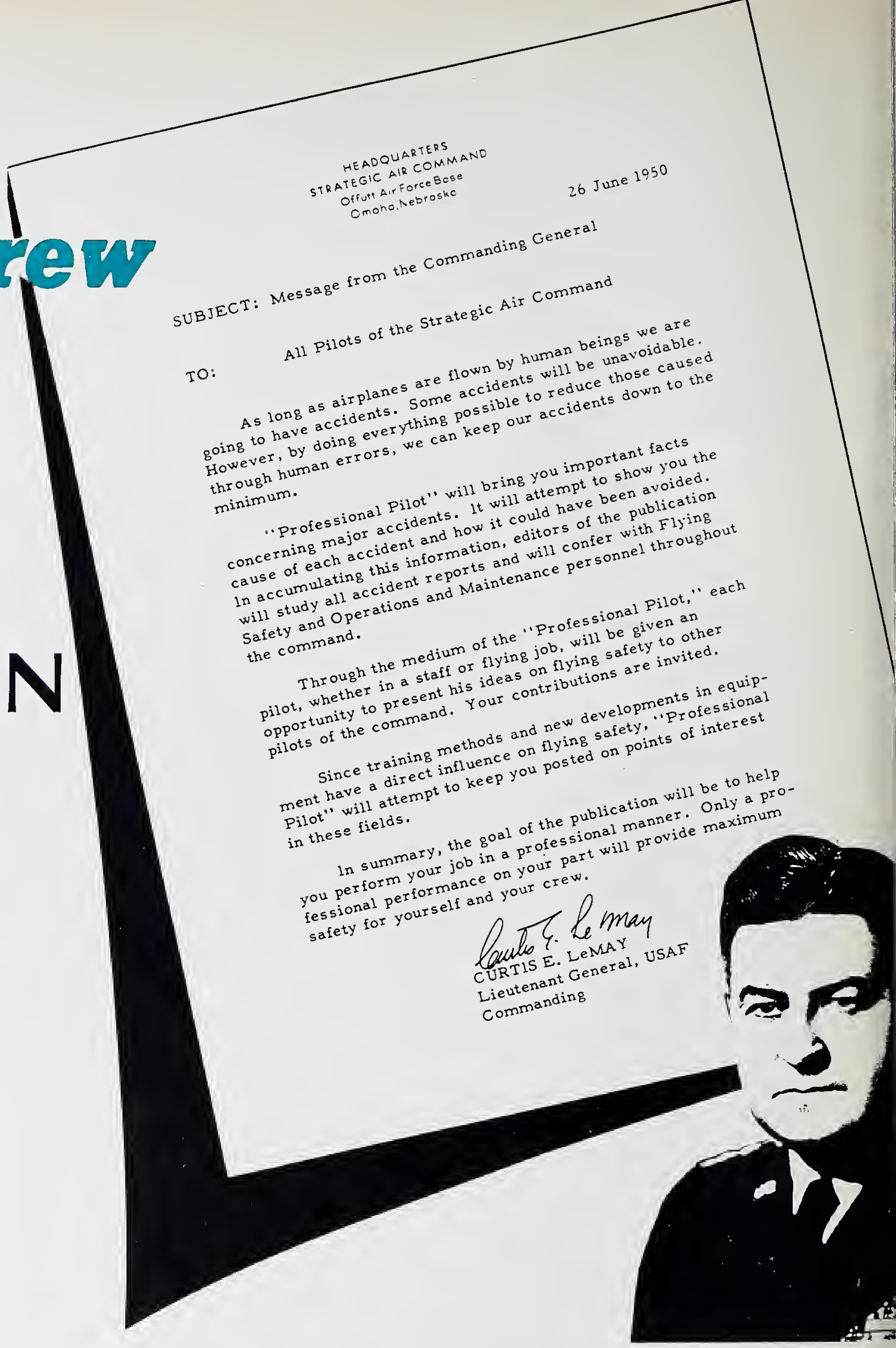
This year marks the 40th anniversary of Combat Crew magazine. SAC's safety magazine began as a supplement to the Air Force Aerospace Safety magazine. In 1950 Gen Curtis LeMay decided to establish a separate magazine to do something about the horrendous 54 aircraft per 100,000 flying hour mishap rate. The first issue was called "Professional Pilot," but it lasted only one issue. The name "Combat Crew" was adopted to recognize everyone's part in safe mission accomplishment.

Since that first issue, "Combat Crew" has been living up to Gen LeMay's challenge of providing information for mishap prevention. The underlying theme throughout each issue is the magazine is written for crewmembers, by crewmembers, about crewmembers.

That's the unique value of "Combat Crew." Crewmembers writing for other crewmembers. No other command safety magazine can compare with the number of crewmember submitted articles. Therein lies the attraction and major benefit of the magazine: crewmembers have the opportunity to learn from the pages of a magazine: rather than the pages of a mishap report.

There is no documented proof that Combat Crew has ever saved a life or prevented a major mishap, but how many times have you said or heard someone say, "I don't know why I did that, but I remember reading in Combat Crew..."

For 40 years Combat Crew has been relaying experiences among crewmembers. Over the years, the message has appeared in many different forms in the magazine. To give you an idea of the evolution of the magazine, we have extracted a selection of features that have appeared in the magazine, to provide some of the flavor of the past.



HEADQUARTERS
STRATEGIC AIR COMMAND
Offutt Air Force Base
Omaha, Nebraska

26 June 1950

SUBJECT: Message from the Commanding General

TO: All Pilots of the Strategic Air Command

As long as airplanes are flown by human beings we are going to have accidents. Some accidents will be unavoidable. However, by doing everything possible to reduce those caused through human errors, we can keep our accidents down to the minimum.

"Professional Pilot" will bring you important facts concerning major accidents. It will attempt to show you the cause of each accident and how it could have been avoided. In accumulating this information, editors of the publication will study all accident reports and will confer with Flying Safety and Operations and Maintenance personnel throughout the command.

Through the medium of the "Professional Pilot," each pilot, whether in a staff or flying job, will be given an opportunity to present his ideas on flying safety to other pilots of the command. Your contributions are invited.

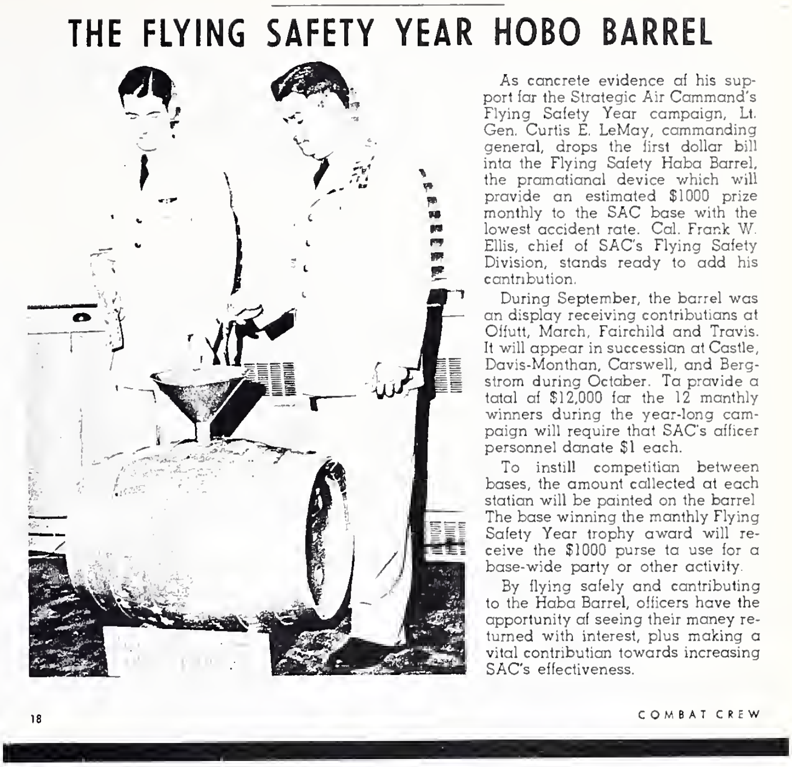
Since training methods and new developments in equipment have a direct influence on flying safety, "Professional Pilot" will attempt to keep you posted on points of interest in these fields.

In summary, the goal of the publication will be to help you perform your job in a professional manner. Only a professional performance on your part will provide maximum safety for yourself and your crew.

Curtis E. LeMay
CURTIS E. LeMAY
Lieutenant General, USAF
Commanding

Combat Crew Editors

'50 – '53	Maj Kermit A. Eggensperger
'53 – '56	Maj Keith M. Garrison
'56 – '59	Lt Col Wayne P. Orr
'59 – '62	Lt Col Barnett B. Young
'63 – '66	Maj Joseph C. Morrison
'66 – '70	Lt Col Robert T. Howard
'70 – '73	Maj Robert J. Peisher
'73 – '75	Maj William P. Hurn
'75 – '78	Lt Col Richard W. Blatter
'78 – '80	Maj Stephen J. Miller
'80 – '82	Capt Ross W. Phillippe
'82 – '84	Maj Randy Lauterbach
'84 – '87	Maj Bob Neidrick
'87 –	Maj Jim Kristl



THE FLYING SAFETY YEAR HOBO BARREL

As concrete evidence of his support for the Strategic Air Command's Flying Safety Year campaign, Lt. Gen. Curtis E. LeMay, commanding general, drops the first dollar bill into the Flying Safety Hobo Barrel, the promotional device which will provide an estimated $1000 prize monthly to the SAC base with the lowest accident rate. Col. Frank W. Ellis, chief of SAC's Flying Safety Division, stands ready to add his contribution.

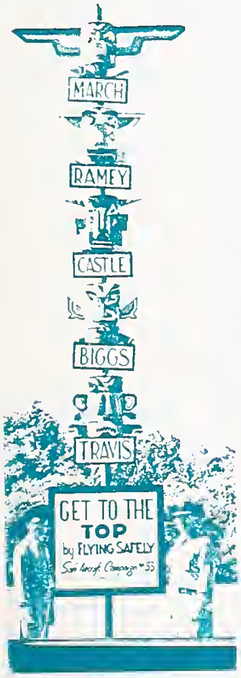
During September, the barrel was on display receiving contributions at Offutt, March, Fairchild and Travis. It will appear in succession at Castle, Davis-Monthan, Carswell, and Bergstrom during October. To provide a total of $12,000 for the 12 monthly winners during the year-long campaign will require that SAC's officer personnel donate $1 each.

To instill competition between bases, the amount collected at each station will be painted on the barrel. The base winning the monthly Flying Safety Year trophy award will receive the $1000 purse to use for a base-wide party or other activity.

By flying safely and contributing to the Hobo Barrel, officers have the opportunity of seeing their money returned with interest, plus making a vital contribution towards increasing SAC's effectiveness.

18 COMBAT CREW

The Totem Pole and Hall of Fame awards were early attempts to encourage mishap prevention.



totems up

THE TOTEM POLE, symbol of the Safe Aircraft Campaign for '53, has been installed in full color at every Strategic Air Command station. Conspicuously placed where combat crew and maintenance personnel will notice them, the totems serve as a constant reminder to fly safely and, also, as a scoreboard on which to list the five top bases each month in the competition for the monthly SAC for '53 trophy.

Flying safety officers throughout the command have followed the totem pattern supplied by SAC's Flying Safety Division but have used their own originality in erecting base totems. One of the most original totem poles is the one constructed at Ramey Air Force Base from scrap metal, iron pipe and metal drums.

The totem pole design was originated by Capt. Joe Morin, art editor of COMBAT CREW.

Photographs of typical totem poles erected throughout the command are described below.

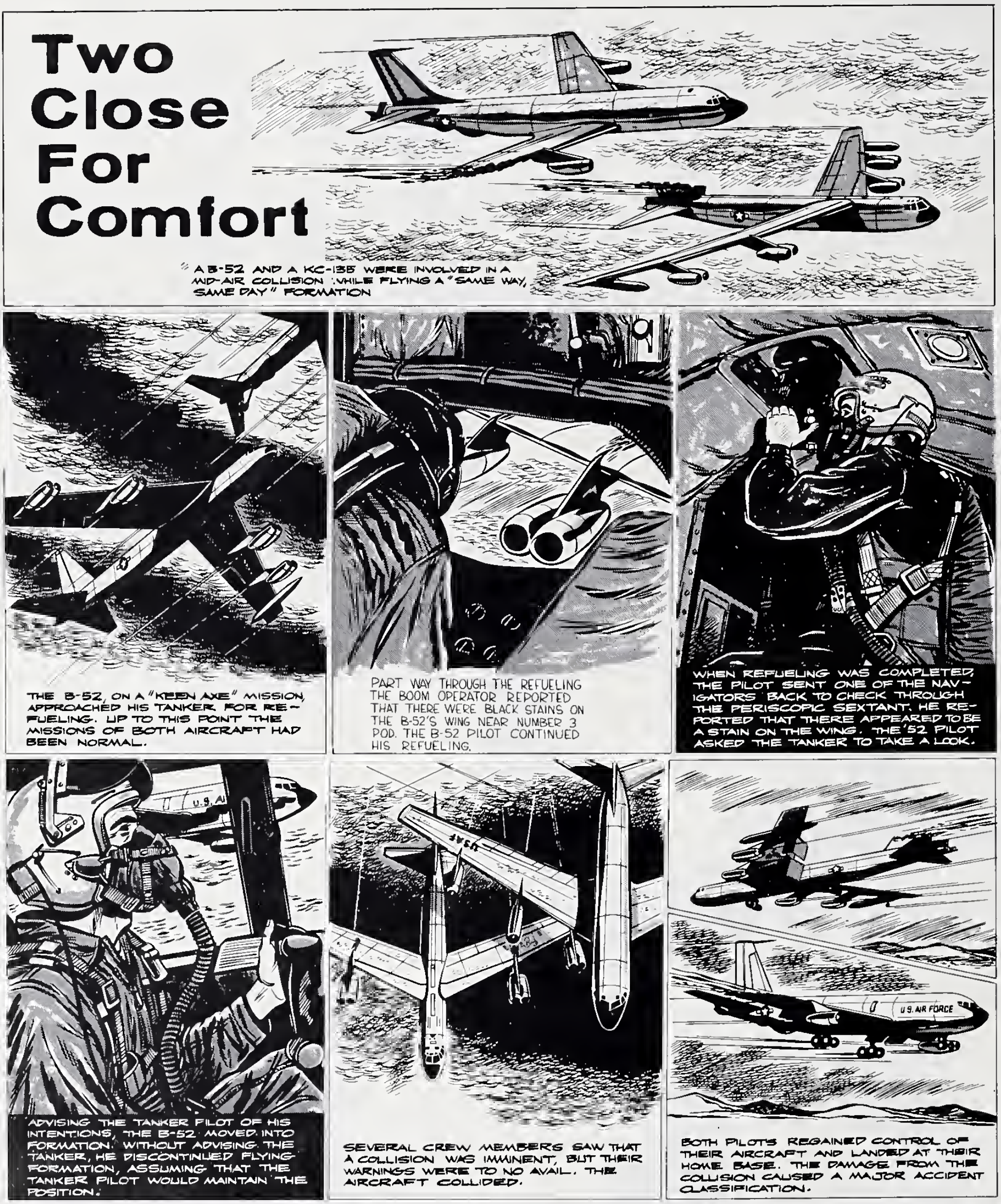
1. Barksdale AFB—Barksdale became the top base on the totem pole for the month of March when it topped the Safe Aircraft Campaign for '53 for that month. Here Brig. Gen. Frederic E. Glantzberg, commander of the 4th Air Division, officially places the "Barksdale" sign at the top.

2. Lockbourne AFB—SAC's Ohio station skyrocketed into third place on the March totem pole, with Barksdale first and Carswell second. Proudly tacking up Lockbourne's name in third place are: (L to R) M/Sgt. Richard W. Loppe, representative of the 801st ABG; A/1C George C. Hicks of the 91st Strategic Reconnaissance Wing and M/Sgt. Thomas A. Lond of the 26th Strategic Reconnaissance Wing.

3. Brig. Gen. Alfred F. Kolberer (R), commander, 72nd Strategic Reconnaissance Wing, and Maj. Zeneth O. Barber, wing flying safety officer, inspect Ramey's unique all-metal totem pole.

4. Lake Charles AFB—Brig. Gen. Raymond L. Winn, 806th Air Division commander, officially shoveled in the first spade of earth at the totem pole erection ceremonies at Lake Charles, at which wing and air base group commanders were present. FSOs Maj. Donald L. Field (L), 68th Bomb Wing, and Capt. Elton F. Bangerter, 44th Bomb Wing, took part in the official dedication. (U)

This cartoon mishap summary usually appeared on the back cover. It got the word out in the late Fifties and early Sixties but changed as mishap investigations and reporting changed.


Two Close For Comfort
"A B-52 AND A KC-135 WERE INVOLVED IN A MID-AIR COLLISION WHILE FLYING A "SAME WAY, SAME DAY" FORMATION
THE B-52, ON A "KEEN AXE" MISSION, APPROACHED HIS TANKER FOR REFUELING. UP TO THIS POINT THE MISSIONS OF BOTH AIRCRAFT HAD BEEN NORMAL.
PART WAY THROUGH THE REFUELING THE BOOM OPERATOR REPORTED THAT THERE WERE BLACK STAINS ON THE B-52'S WING NEAR NUMBER 3 POD. THE B-52 PILOT CONTINUED HIS REFUELING.
WHEN REFUELING WAS COMPLETED, THE PILOT SENT ONE OF THE NAVIGATORS BACK TO CHECK THROUGH THE PERISCOPIC SEXTANT. HE REPORTED THAT THERE APPEARED TO BE A STAIN ON THE WING. THE '52 PILOT ASKED THE TANKER TO TAKE A LOOK.
U.S. AI
ADVISING THE TANKER PILOT OF HIS INTENTIONS, THE B-52 MOVED INTO FORMATION. WITHOUT ADVISING THE TANKER, HE DISCONTINUED FLYING FORMATION, ASSUMING THAT THE TANKER PILOT WOULD MAINTAIN THE POSITION.
USAF
SEVERAL CREW MEMBERS SAW THAT A COLLISION WAS IMMINENT, BUT THEIR WARNINGS WERE TO NO AVAIL. THE AIRCRAFT COLLIDED.
U.S. AIR FORCE
BOTH PILOTS REGAINED CONTROL OF THEIR AIRCRAFT AND LANDED AT THEIR HOME BASE. THE DAMAGE FROM THE COLLISION CAUSED A MAJOR ACCIDENT CLASSIFICATION.

The old joke about the "same way, same day" type of formation was forcefully brought home by the actions of the two pilots.

On reviewing the accident, it was determined that the pilots failed to properly plan the maneuver to be accomplished and that they failed to maintain adequate separation while flying in close proximity to each other.

These smaller features encouraged unattributable experiences and were very popular for getting a quick safety item out to the crews.

LEST WE FORGET

COLONEL GEORGE F. BENNETT
HQ SAC Deputy Director of Safety

SUCCESS, OUR GREATEST ENEMY?

BACKGROUND: Mission after mission, sortie after sortie, flight after flight, you have been successful. Takeoff after takeoff, landing after landing, you have not encountered a significant problem. You have an enviable record of never breaking an aircraft. You are a SAC pilot.

BEFORE EACH CRITICAL PHASE OF FLIGHT, THINK EMERGENCY.

My Conscience Speaks

This is a page of anonymous confessions. If you've never done anything wrong in an airplane, you cannot contribute to it. Besides, you must be fairly new in this business. The point of "My Conscience Speaks" is to air the lessons to be learned from the "heads up and locked" cases, where the "heads-uper," without identifying himself, tells his story as a confession to help a fellow airman. This is not intended to replace the Operational Hazard Report in any way. Its purpose, rather, is to receive those reports that crew members feel so bad about they don't even want to chance an Ops Hazard Report. "My Conscience Speaks" is not limited to aircrewmen but will print the sad tale of anyone who deals with anything related to aircraft. Drop your story in an envelope addressed to COMBAT CREW, Directorate of Operations, Hq SAC, Offutt AFB, Nebraska.

operational hazards

Editors Note. A "WRUCK" is a little thing in Airplanes that WRUCKS things!

TANKER INSTRUMENT TROUBLES. During takeoff and climb from their home base, the pilot noted a hesitation and lag in his airspeed, altimeter and vertical velocity indicators. Since strong and gusty winds existed, this was considered to be the reason for the erroneous indications. No other malfunctions were noted during cruise or approach at destination. On the next flight, a pilot change was necessary to place a passenger qualified pilot in the left seat. He briefed the crew pilot to aid in detecting anything unusual during takeoff. The takeoff was normal until rotation and at this time, the pilot's vertical velocity indicator was sluggish and slow to indicate a positive rate of climb. The altimeter failed to show any change in altitude and the airspeed was slow to accelerate. As the climb was started, the pilot's vertical velocity showed a 500 fpm rate of climb while the copilot's instrument indicated 2000 fpm. The pilot's altimeter indicated 100 feet AGL; the copilot's 500 feet and the pilot's airspeed indicated approximately 25 to 30 knots below that of the copilot. *A constant aircraft attitude was maintained by reference to both attitude indicators and the copilot instruments.* Discrepancies between the two sets of instruments settled down after reaching approximately 900 feet AGL and did not repeat themselves for the remainder of the flight. The cause of the trouble was leakage in the case of both the airspeed indicator and the vertical velocity indicator. This was an unusual situation but emphasizes the fact that this type of situation can take place and at the worst possible time in the flight. Monitor all available instruments — all the time.

RUDDER KICKBACK. During landing, a KC-135 pilot applied left rudder to correct to the centerline. He had reached nearly full left rudder when it suddenly "kicked back" to the right. Even though he exerted full physical pressure, the rudder would not move past the one-half right rudder position. He then released all pressure momentarily and found that he could apply rudder in either direction but still noted very high pedal forces and intermittent kickback. The mission was terminated. Maintenance inspection revealed a minor discrepancy in rigging and a small crack in the Q spring inlet tube. However, the power control unit was removed for shipment to the depot for inspection.

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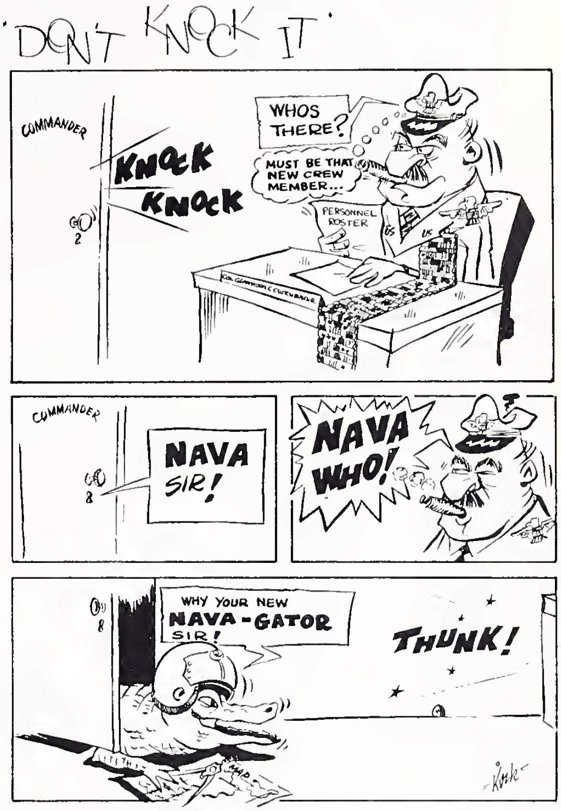

'DON'T KNOCK IT'
COMMANDER
KNOCK KNOCK
WHOS THERE?
MUST BE THAT NEW CREW MEMBER...
PERSONNEL ROSTER
COMMANDER
NAVA SIR!
NAVA WHO!
WHY YOUR NEW NAVA-GATOR SIR!
THUNK!
Kirk

MURPHY'S LAW

"IF ANYTHING CAN BE DONE WRONG, SOMEONE WILL DO IT"
MSGT Thomas G. Murphy
HQ SAC, DOSG

An officer was awakened in the middle of the night by a noise in the basement. On his way down the stairs, he attempted to step over the family cat, and fell.
MORAL: A cat may have nine lives, but you have only one.

An NCO had his car on a bumper jack while he was underneath replacing worn shock absorbers. Guess what happened!
MORAL: Use a bumper jack only when the job can be done without getting under the car.

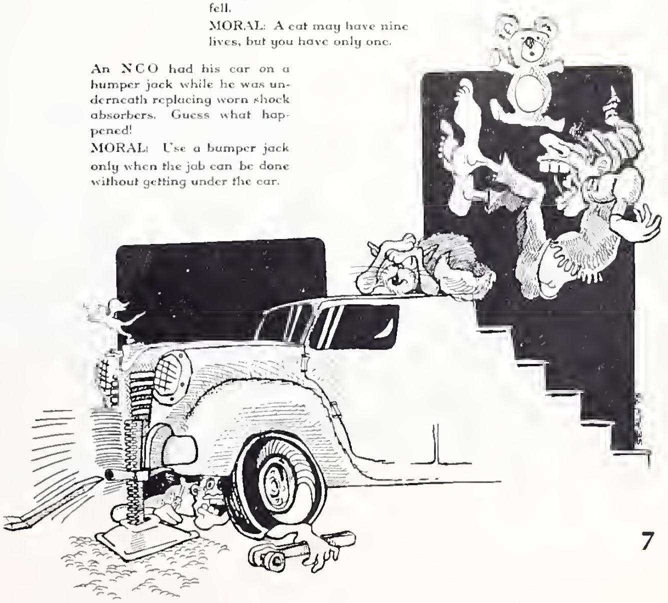


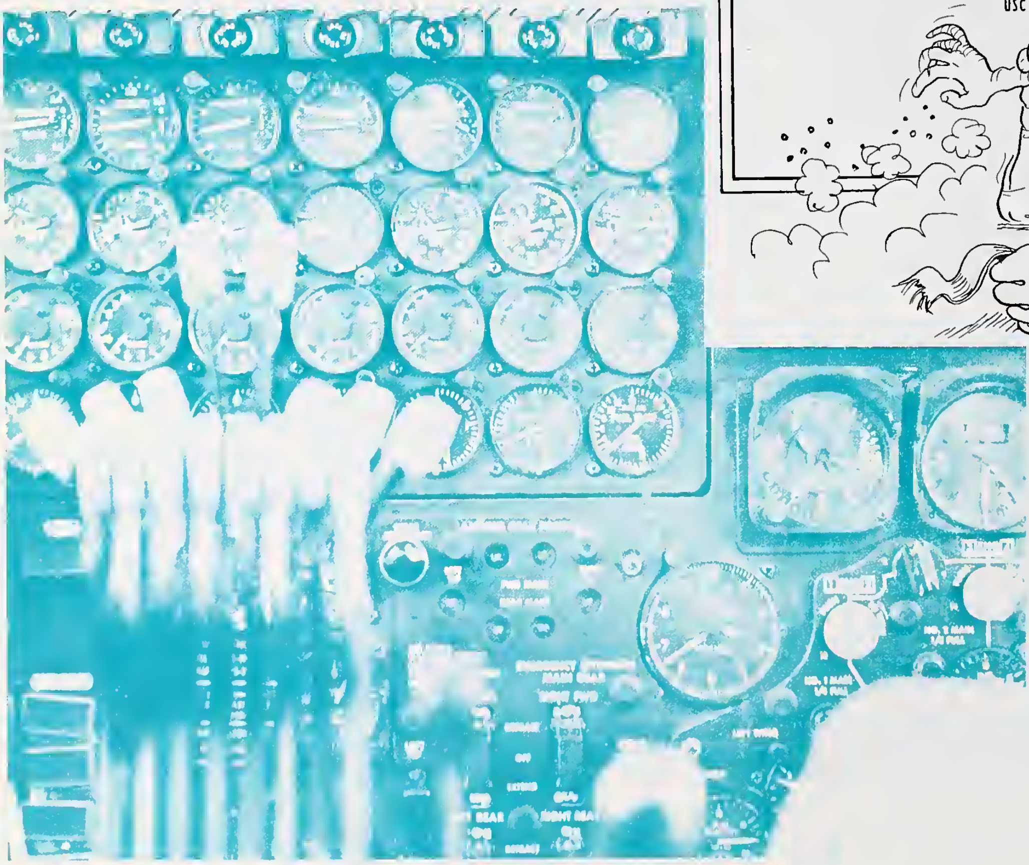
Photo Quiz

DUE TO BEING desk-bound for a long period a few months ago we were unable to obtain pictures that raise questions. Then one day not too long ago we were able to pick up the camera and steal away from the Big Building on the Hill. During the desk-bound time our proficiency level with the tell-tale camera dropped considerably. However, we did get a few pictures that will test the sharpness of your eye.

The aircraft used for this month's quiz is certainly not hard to figure out but there is something wrong with an instrument reading—look close. Send your answer to Editor, Combat Crew, Hq SAC (DOSDC), Offutt AFB, Nebr. 68113.

Bien Hoa Air Force Base, Vietnam, was the most distant reply we had on our last photo quiz. It came from SSgt Roy L. Dodd, 3rd Air Police Squadron, Bien Hoa. He was by the way partially correct in his answer.

The quiz photos were popular and helped encourage people to dig through the magazines for information.



Coach Safely was a technique to get crews into the magazine using a very transparent safety theme. It was popular and generated many phone calls to put together an accurate line.

This year help the ecologists. Don't litter the flag football field with broken bodies. Get in shape before you play!
COACH SAFELY PIX:
EVERY LITTER BIT HURTS!

8 SEPTEMBER

NEBRASKA OVER UCLA by 6
TEMPLE OVER XAVIER by 6
VIRGINIA U. OVER VMI by 27
N. CAROLINA St OVER E. CAROLINA by 7
HENDERSON St OVER AUSTIN PEAVY St U. by 21

15 SEPTEMBER

OKLAHOMA OVER BAYLOR by 21
WIDENER OVER LEBANON VALLEY by 18
ALFRED OVER BROCKPORT by 14
GA. TECH OVER S. CAROLINA by 28
LSU OVER COLORADO by 7

22 SEPTEMBER

AIR FORCE OVER OREGON by 12
TENNESSEE OVER ARMY by 18
PENN STATE OVER NAVY as usual
WITTENBERG OVER VALPARAISO by 11
SYRACUSE PLAYS MICHIGAN STATE

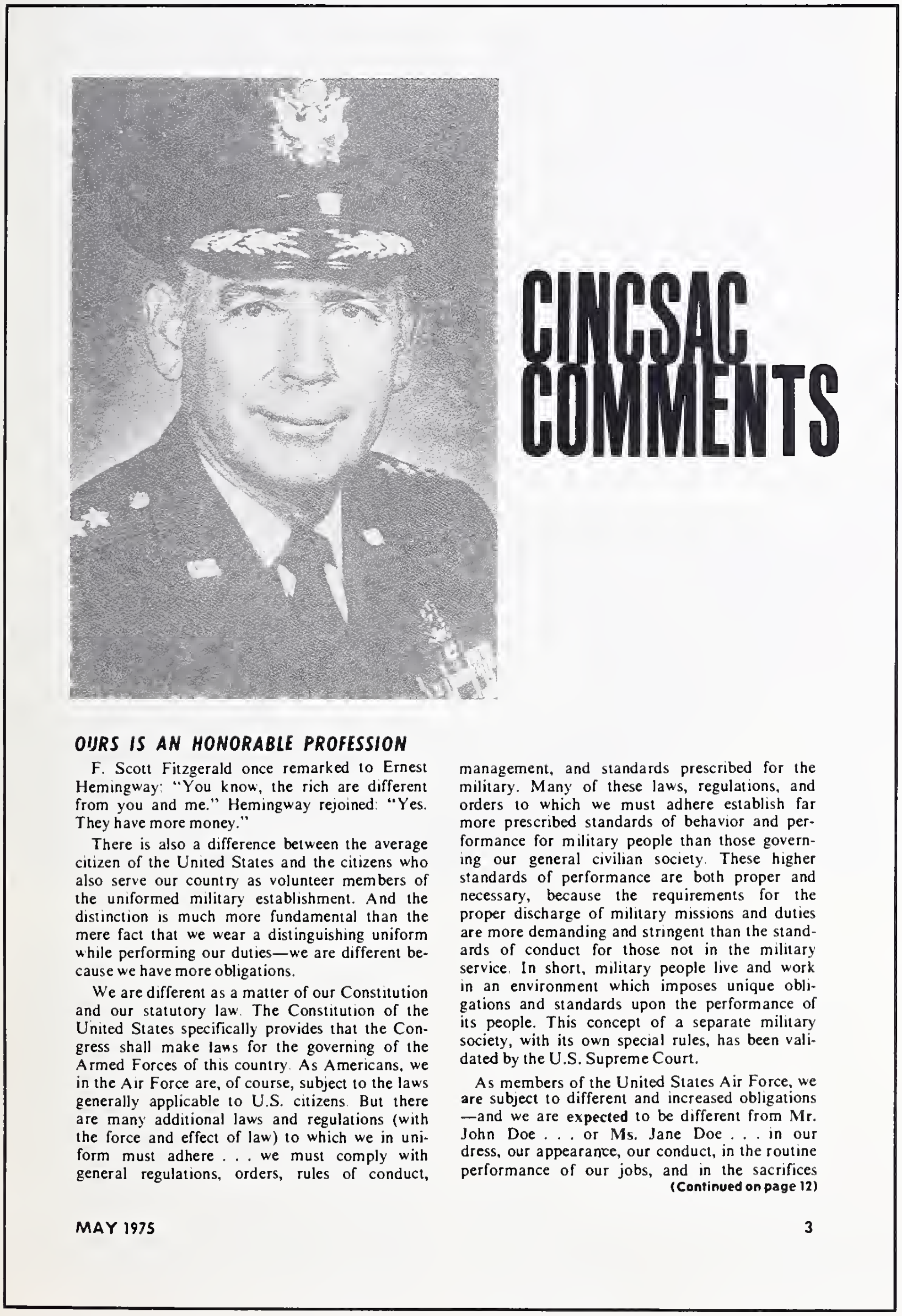
29 SEPTEMBER

AIR FORCE OVER NEW MEXICO by 12
CALIFORNIA TIES ARMY
MICHIGAN SINKS NAVY by 28
SLIPPERY ROCK OVER EDINBORO by 6
USC OVER OKLAHOMA by 10

6 OCTOBER

AIR FORCE OVER PENN STATE -I hope
GEORGIA TECH DRILLS ARMY by 18
NEBRASKA OVER MINNESOTA by 21
St. OLAF OVER RIPON by 7
MUSKINGUM OVER WOFFORD by 14

Several classic editorials have appeared in the magazine with Gen Dougherty's heading the list. The editorial page provides an avenue for the senior staff to send a message to the crews.



CINCSAC COMMENTS

OURS IS AN HONORABLE PROFESSION

F. Scott Fitzgerald once remarked to Ernest Hemingway: "You know, the rich are different from you and me." Hemingway rejoined: "Yes. They have more money."

There is also a difference between the average citizen of the United States and the citizens who also serve our country as volunteer members of the uniformed military establishment. And the distinction is much more fundamental than the mere fact that we wear a distinguishing uniform while performing our duties—we are different because we have more obligations.

We are different as a matter of our Constitution and our statutory law. The Constitution of the United States specifically provides that the Congress shall make laws for the governing of the Armed Forces of this country. As Americans, we in the Air Force are, of course, subject to the laws generally applicable to U.S. citizens. But there are many additional laws and regulations (with the force and effect of law) to which we in uniform must adhere . . . we must comply with general regulations, orders, rules of conduct, management, and standards prescribed for the military. Many of these laws, regulations, and orders to which we must adhere establish far more prescribed standards of behavior and performance for military people than those governing our general civilian society. These higher standards of performance are both proper and necessary, because the requirements for the proper discharge of military missions and duties are more demanding and stringent than the standards of conduct for those not in the military service. In short, military people live and work in an environment which imposes unique obligations and standards upon the performance of its people. This concept of a separate military society, with its own special rules, has been validated by the U.S. Supreme Court.

As members of the United States Air Force, we are subject to different and increased obligations —and we are expected to be different from Mr. John Doe . . . or Ms. Jane Doe . . . in our dress, our appearance, our conduct, in the routine performance of our jobs, and in the sacrifices

(Continued on page 12)

MAY 1975 3

40 Combat Crew

Although the mishap rate is markedly lower than when Combat Crew was first published, there will always be a need for a magazine like Combat Crew. As a result, there will always be a demand for articles from crewmembers. If you experience a near mishap, or suddenly find yourself faced with an unexpected situation, let the crew force know by dropping an article into the magazine. You'll be joining a distinguished group as Combat Crew starts another decade of safe mission accomplishment.

ACE Gear Up

Anon-E-Mouse

"You've got to be kidding me! How can anyone be that stupid?"

That's what I thought just after the ACE SOF told me not to land "gear up." This cross-country started out like most others, but ended like very few –in the safety office at Mather AFB. Slick was going on his first cross-country and I was going on what I thought was going to be my last, so we decided to do a little extra mission planning just so we wouldn't get caught with our pants down. We both agreed that we were spending more time planning this cross-country than we would have spent planning a refueling mission.

The first day was pretty uneventful except for all the wind-spinning we were having to do in order to get to Willy safely. The next morning we got off the ground just as the morning fog was moving in. No big problem there, but the winds were bad again on Friday so we were watching the wizz wheel fairly closely again. We made it to March without any problems, but we did notice that the right engine was making a little louder noise than usual. I even made the comment that every bull moose in the area was going to follow us into March.

Prior to leaving home base, we were briefed that the leg to Mather was a long one but was possible. We checked the winds to Mather and they were forecast at 25 to 35 knots at altitude. Once we got airborne we were vectored 30 miles to the south, then went north with one more reason to watch the winds and fuel. A few minutes after takeoff we started getting 50 knots on the nose, and we figured it was going to be pretty close. We had previously thought about diverting into Castle if necessary. After several strokes on the rabbit's foot, we finally decided that we were going to have to land at Castle to keep from declaring emergency fuel on our arrival at Mather. Castle was uneventful, we even decided to flight plan the leg up to Mather even though 60-16 didn't require that leg to be planned.

What really happened at Mather? Well, Slick's ILS was a good one and since the traffic pattern was empty we decided to get as many patterns as we could. The bird condition was yellow at the time but we were not informed of that on our initial contact with arrival, nor did we check ATIS (first mistake: see inflight guide). We had briefed that we would switch aircraft control at 130 KIAS with the aircraft cleaned up. At 130, Slick gave me the aircraft and I pulled up into the closed pattern. The first one was a little tight so we talked about the corrections Slick would have to make to make his pattern better than mine. Slick took the aircraft and flew his pattern, which was a little steep because he used the end of the runway for his aim point as opposed to an extended aim point. We discussed the corrections needed and then it was my turn. We transferred aircraft control and I made an aggressive pullup and told him this was going to be a great landing. I came in maintaining airspeed and got the tweet to approach a stall just prior to touching the runway. On the touch-and-go I asked Slick if he knew what that shaking was. He said, "Yeah, it's initial buffet." I informed him that he was wrong and that it was just a quiver and that if you caress your tweet in the flare you can get it to quiver every time. (Mistake number two: you need to concentrate on flying the jet properly and not showing off.)

Slick's next approach was very nice and then came our last approach. With 1200 pounds of fuel still on board I took the jet at 130 KIAS. Right after extending the speedbrake, a hawk passed by the canopy and both of us saw it at the same time (distraction number one). Now that my mind was back on flying the jet, I was concentrating on flying 120 KIAS min prior to the perch. At the perch an oncoming aircraft called ILS final, (distraction number two), and I tracked the flaps as usual and made my gear down call. Mistake number three: I didn't notice the horn nor the lights telling me to put my gear in the position my mind had just told me they were in; i.e., **down and locked**.

Now I was concentrating on maintaining 110 around the final turn. About halfway around the turn, tower cleared Gator XX to cross the approach end of Runway 22R, (distraction number three), and I made the comment to Slick that that was something we would need to remember for our departure the following day. Slick was checking the position of the Gator and then he came back in the cockpit to monitor my aim point and airspeed. Both of us were concentrating so hard that we neglected the gear position again in the flare. We both noticed that the nose was getting a little high and the plane seemed to be settling a little lower than usual. About that time the mains touched down (the tail fin) and I relaxed, then the nose gear touched (the speed brake) and both of us thought there was something wrong with the nose gear.

At that point, both of us looked at the gear handle and figured out what was wrong. Tower was nice enough to inform us that we had sparks coming from under the aircraft. I looked over my left wing and sure enough he was right. Not a good situation to be in with 1200 pounds of fuel on board! As we were sliding down the runway, both of us thought about our careers and Slick made the best observation of all after we egressed the aircraft. He said the first thing he thought about was how could you have done this to me? Then he thought to himself, "Where the H..l was I?" As second pilot in the jet, we all need to think ahead of the jet and ahead of the other guy. If we don't, we are just inviting something to go wrong.

The egress was the most impressive thing I have ever seen. As we were sliding down the runway we started going through the abort/"get the heck out of the jet" checklist. Before we had come to a stop I had shut the engines down with the T-handles and at the same time Slick was pulling off the throttles. We came to a stop and Slick already had the canopy lever back. The canopy was not opening and he observed, "The canopy is on your side." I glanced down at the emergency opening switch but my mind told me, "That one has a wire on it, don't use it;" therefore, I opened the canopy with the external switch. The next thing I saw was Slick's backside and banana kit going over the rail. I undid my leads and climbed out. We had shut the engines and electrics off by instinct but we elected not to put our seat pins in. One thing that amazed me was that I even remembered to stow my gold key.

What is the moral of this story? Well, you can decide for yourself but as for us – **ATTENTION TO DETAIL, DON'T LET MINOR DISTRACTIONS DISRUPT YOUR NORMAL HABIT PATTERNS, AND MAKE USE OF A GOOD SAFETY CHECK ON FINAL.** One last tip for any studs reading this, pay attention to the egress training and briefs you get while you're still at UPT. Slick and I had 1200 pounds of fuel remaining and it was leaking on the runway as we were egressing the jet. That fuel could have made a great pilot barbecue.

How One Caution Was Written

Capt Don Mattner

"CAUTION – Known bird strikes, static discharges, and lightning strikes should be considered to have caused at least secondary structural damage. Airspeed should be reduced so as not to exceed 250 knots IAS Mach .77, whichever is lower, for the remainder of the flight. DAMAGE DETERMINATION procedures will be utilized and consideration given to early termination of the flight." Before this caution existed, I was on a crew that had to figure this out the hard way.

"Pilot, turn left to a heading of 012° –now."

"Roger, nav." A routine low level was proceeding exactly as it had many times in the past. As an electronic warfare officer (EWO) in the B-52, I had no duties to perform between low level entry and the ECM run, so I just monitored what the rest of the crew was up to.

After entering IR-075, the crew performed a Terrain Avoidance (TA) calibration and accomplished an enroute bomb run. While flying at TA altitudes to the scheduled bombing and ECM activity, the weather began to worsen. It was adequate weather for remaining at the clearance plane settings, and there was no visible precipitation. The AC asked the RN to look for weather on his radar scope, which he reported to be negative.

Proceeding down course, we began to hear static on both UHF radios. I also began to pick up weather interference on some of my ECM receivers. The static got louder and steadier while the strobing on my receivers increased.

"KA – BOOM!" The aircraft shook violently as a bright white flash nearly blinded me and the gunner. As the adrenalin started pumping, I reached for my ejection seat arming levers, intending to eject! Before rotating the arming levers, I paused to see if the aircraft was still flying. The AC was immediately on the interphone saying, "The plane is under control! It's all right. Don't anybody do anything. We're still flying."

After prying my fingers from the arming levers, my interest in the interphone chatter greatly increased. The pilot was calling for a climb to IFR altitudes, the AC was beginning a climb, and the IP was saying that everything was all right, that he had seen this many times before.

Upon leveling off at the IFR altitude, the pilot team began to analyze the situation. The AC was determining the flyability of the plane, and to that effect was doing a modified controllability check. He then had the crew report their status. The IP continued to say that he believed we had experienced a static discharge and that we should get back down to TA and finish the low level.

The AC was debating climbing out of the low level structure and returning to base. However, after discussing the situation with the IP, he decided everything was all right and we returned to TA altitudes. We flew out the mission uneventfully and returned to our home base for our scheduled transition work.

We were on the "go" portion of our first touch-and-go when the control tower called. "Bongo 24, Tower. You appear to have a large hole through the tail of your aircraft. Please advise us of your intentions." At the same time, the SOF called us on 311.0 to tell us the same thing. The pilot requested a visual approach to a full stop and did not declare an emergency.

We landed without any problems and stopped on the hammerhead. We were instructed by the DO to shut down engines on the hammerhead and unload the airplane. As we stepped out of the aircraft, we all saw the hole. It was approximately four to five feet high, three feet across, six feet from the top of the tail, and went all the way through the tail. The rudder also had some small holes in it.

While undergoing the rigors of the necessary physical exams and the inevitable safety board, I began to wonder if the situation could have been avoided. Specifically, I wanted to know if there was anything I could have done as a non-pilot to prevent the incident or to help out the rest of the crew.

The safety board determined that the damage was caused by a static discharge. Back at the weather briefing, the low level weather was forecast to be less than optimum. They were calling for an overcast, some precipitation in the route, and isolated thunderstorms. We possibly could have asked the weather folks if we would have been near the freezing level during low level. In early winter, this was a definite possibility.

Once we were in the low level route and picking up the static, I could have asked the pilot what the OAT was. If we were near the freezing level, we could have tried to climb to IFR to get above it. Since we know that most static discharges and lightning strikes occur at the freezing level, it would have been prudent to avoid it.

Another thing that struck me is that the rest of the crew, myself included, let the pilots make all the decisions about returning to TA. The AC makes the final decision, but it is critical that the rest of the crew make their inputs. I know I didn't feel comfortable continuing to fly TA.

One of the more interesting ideas that came to light after this incident was using the sextant to scan the top of the aircraft for damage. This thought never occurred to me during flight, but it made a lot of sense later. While we were at IFR altitude, I could have inserted the sextant and spotted the damage. With this information, the AC perhaps could have aborted the route, reduced airspeed and returned to base. The resulting additional sheet metal damage from wind blast could have been greatly reduced.

As it was, the entire tail had to be replaced. We could have possibly avoided the situation or kept from inflicting further damage to the aircraft by more thoroughly analyzing our problem. It's a rare static discharge or lightning strike that doesn't cause some damage.

There I Was ...

My crew and I were picked to lead a two-ship cell on a JCS/HHD mission refueling two B-52's whose crews would be dropping mines somewhere in the Pacific Ocean. The launch was scheduled for 0400 and there was a torrential rainstorm in progress.

Further complicating matters, the bomber and tanker cell formations were launching under **Silent Warrior**. Both tanker crews were uncomfortable with launching in such heavy rain, but were repeatedly reassured by supervisors that all was okay. At the hammerhead the rain was so heavy that we could barely make out the lead bomber on the hammerhead directly across the runway.

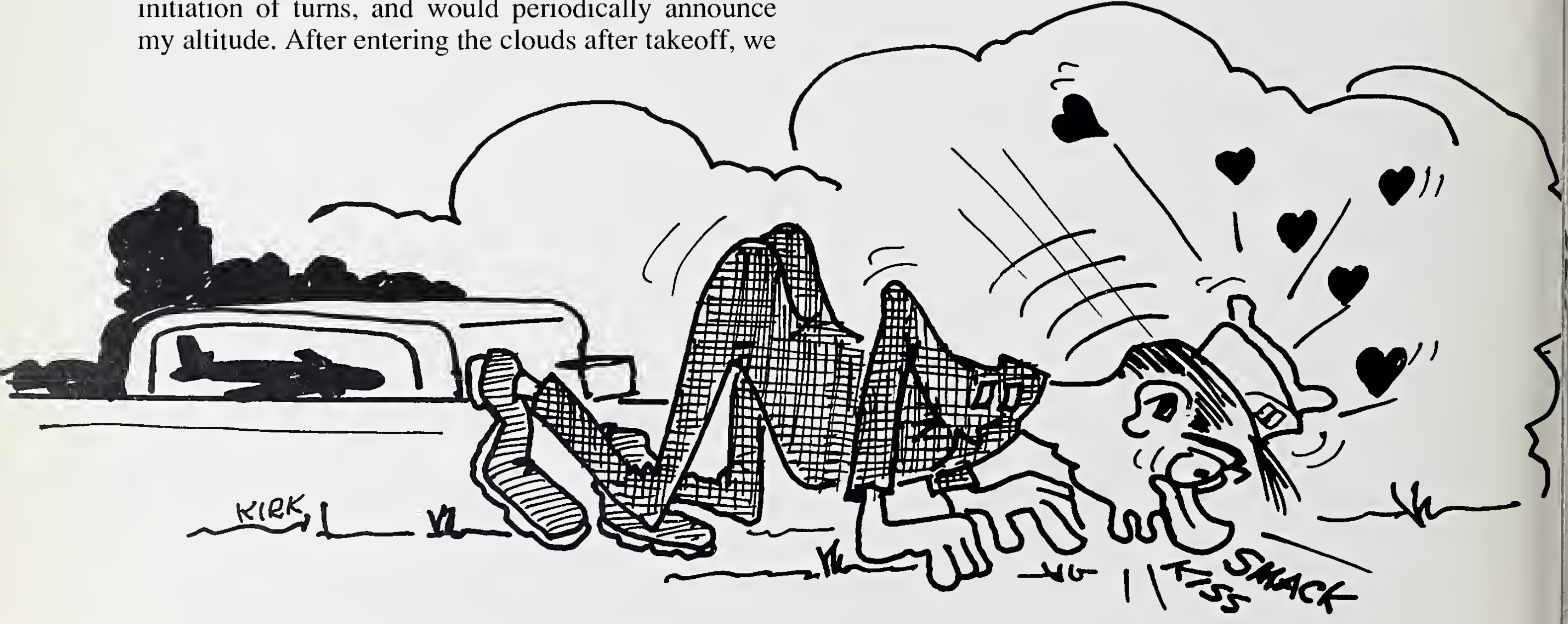
The bombers soon began their takeoff roll. Because of my continuing serious doubts about the heavy rainfall, we monitored their departure frequency and heard both of them call airborne. Beginning our own takeoff and climbout, we entered the clouds at 500 feet with our cellmate taking off one minute behind. Our departure route was to take us south about 15 miles, then a 180 degree right turn, another 40 miles, then a 90 degree left turn, then five minutes later making another 180 degree right turn to proceed directly to the rendezvous point. These turns would not help our cellmate fly good formation.

I had prebriefed that I would announce all turns and initiation of turns, and would periodically announce my altitude. After entering the clouds after takeoff, we were almost immediately buffeted by moderate turbulence in combination with heavy rain shower activity. Although my number two was acknowledging my calls, he was not giving me any information in return. I'm sure he had his hands full too.

It was about halfway through the final 180 degree turn that things became terrifying. All of a sudden the pilot looked out his window and began screaming, **"Dive! Dive! Dive!"** In the process of pushing over I took a look out the windows; my number two was in 30 degrees of bank, belly up at our altitude, and with a vector into us! I pushed the nose over and did a partial barrel roll underneath him, missing him by about 100 feet. When we both rolled out, we told him what had just happened.

On the ground, we found that number two had not ensured positive altitude separation from us. In addition, they had had a good radar contact on us at three miles. When the range suddenly started decreasing, they made no call to us as we quickly moved to the center of their scope.

As lead, I had briefed the cell adequately, but not as thoroughly as I should have. I didn't cover lost wingman procedures as it was not an established procedure in SACR 55-11 at that time. I also should have been more aggressive about monitoring my number two's position. By listening to his distances and altitude, instead of assuming he understood what was going on, I could have prevented this potentially fatal midair incident.



JUST CAUSE Postscript

Capt Daniel M. Malone, Jr.
905 AREFS, Grand Forks AFB

On 22 Dec 89, our crew redeployed from a forward operating base after taking part in the highly successful operation **Just Cause**. We were scheduled to fly the number two aircraft in a cell formation from takeoff through recovery at home station. In addition to the four aircrew members, seven specialists went on the mission. The weather was 2000 -4000 feet overcast with several scattered decks above the ceiling. Thunderstorms were forecast north of the departure base. The aircrew planned the takeoff for a 230,000 pound gross weight aircraft and 35-second spacing behind the lead aircraft.

Preflight checks were completed – no problem. Takeoff acceleration, rotation and gear and flap retraction were normal. Once airborne and on initial climbout, cell position was maintained by radar and air to air TACAN. Passing approximately 4000 feet altitude, the aircraft commander visually maintained position through several step climbs toward a final block altitude of flight levels 290-310. Passing 24,000 feet, the navigator noticed a momentary flashing of the number one engine low oil pressure warning light on the pilot's cockpit instrument panel and quickly advised the crew of the malfunction. The pilot team observed that the oil pressures on both engines on the left wing were indicating below normal limits with fluctuations of approximately five psi.

After leveling the aircraft at cruise altitude, the outboard engine oil pressure began fluctuating out of limits. The number one engine was brought to idle and eventually shut down with the Precautionary Engine Shut Down Engine checklist, while air traffic control and the command post were advised of the situation. The crew considered the circumstances, researched the problem and planned their actions accordingly. Following the declaration of an inflight emergency due to the number one engine being shut down and the possibility of a second inoperative engine on the left side the crew advised the appropriate agencies. The boom operator prepared the passengers for the possibility of an emergency landing and brought forward an engine specialist to confer with the pilots on their problems. He also designated one of the crew chiefs as a visual lookout in the cargo area to observe the external condition of the port engines.

Meanwhile, the AC directed the reading of pertinent information from technical orders concerning the malfunction and engine shut down procedures. The pilot computed the necessary approach and landing data for the aircraft and adjusted gross weight to within safe landing parameters. The navigator advised the command post of the crew's subsequent actions and coordinated a "Hotel Conference" to aid the crew in their decision making process.

The AC flew the aircraft in a very shallow descent on a 30-mile arc around the field to fly an instrument approach to the active runway. During the descent, an instructor pilot in the command post reconfirmed their actions as correct and landing data as accurate. The crew flew a precision approach using three engine procedures. Number one engine was shut down and number four was reduced toward idle to preclude an asymmetric flight condition. The boom operator monitored number two engine oil pressure during the approach enabling the pilot to fly without distractions. A left crosswind on the runway was a constant reminder of the problems that would occur if the second engine on the left side failed. Fortunately, no further problems arose on the approach and the aircrew completed the approach to a safe landing. The AC allowed the aircraft to roll to the end of the runway to facilitate emergency and maintenance crews to assist the aircraft.

After the aircraft and personnel were safely on the ground, maintenance inspections revealed that both the number one and two engine oil reservoir filler caps were not properly secured. Apparently, the caps came off on takeoff roll allowing the oil to escape during the climb and level-off. The aircraft engines hold 12 quarts of oil. The number one engine lost 10 quarts while the number two engine lost eight quarts of oil. The oil was reserviced; the caps properly secured, and the engines ran for operational checks. After maintenance cleared the aircraft for flight, the crew departed the forward operating airfield and recovered the aircraft at home station without further incident.

Lesson for the day: After the job satisfaction of a worthy cause and a relaxing flight home, the infamous "Murphy" shows up.

The Limit's Is the LIMIT

Lt Col Bob Ullman
5 BMW, Minot AFB

Although this is written with B-52 numbers in it, it could apply to any aircraft. Just substitute your flight manual numbers in the appropriate places. Author.)

"AC, break right and then gun jink, we've got a fighter at four o'clock, two miles closing."

You dutifully put your trusty B-52 into a hard right turn and pulse the yoke to change altitude up and down.

"Okay, AC, we've forced him to overshoot, break left hard."

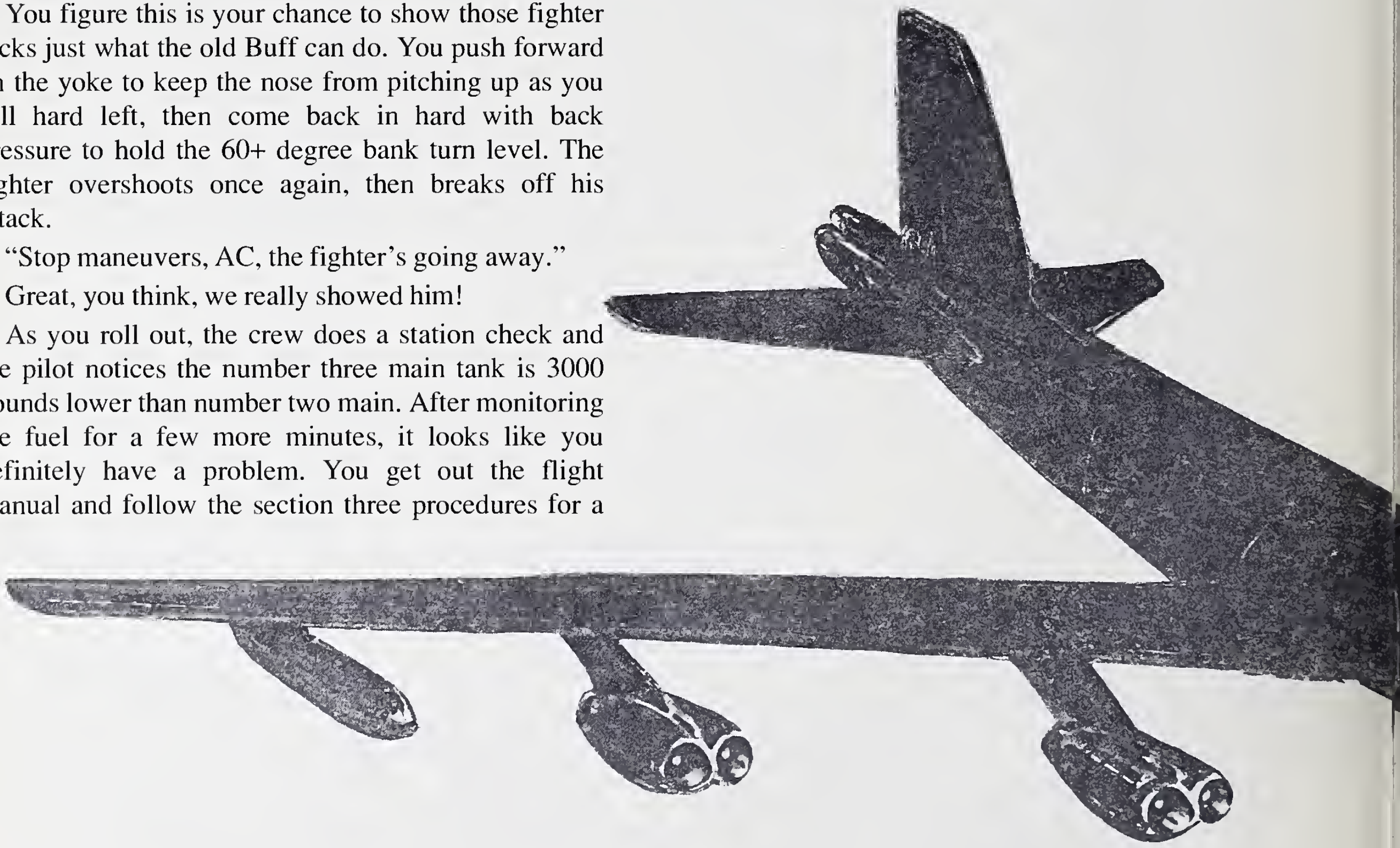
You figure this is your chance to show those fighter jocks just what the old Buff can do. You push forward on the yoke to keep the nose from pitching up as you roll hard left, then come back in hard with back pressure to hold the 60+ degree bank turn level. The fighter overshoots once again, then breaks off his attack.

"Stop maneuvers, AC, the fighter's going away."

Great, you think, we really showed him!

As you roll out, the crew does a station check and the pilot notices the number three main tank is 3000 pounds lower than number two main. After monitoring the fuel for a few more minutes, it looks like you definitely have a problem. You get out the flight manual and follow the section three procedures for a possible fuel leak. You determine that you do have a main tank fuel leak, and the book also says that a main tank fuel leak represents structural damage to the wing. This is not good news. You limp your trusty fighting machine along to an emergency flaps up landing, all the while hoping the wing stays on long enough to get on the deck.

When you clear the runway and evacuate the aircraft you meet up with the wing safety officer who tries to get some info on what happened. You tell him you don't have a clue. When the dust settles, you get a look at the right wing. On the top of the wing you see



several buckles running front to back. There are no buckles on the bottom but there is a very sizable skin crack just inboard of the number three engine pod.

A many-striped maintenance type comes over and says this airplane has been over G'd. What! No way, you say. "I never went over 2 G's the whole flight, and besides everyone knows that 2 G's is way less than the airplane can take, but engineers tell us '2' just to be conservative."

Wrong! Not only wrong, but you could be dead wrong.

Why?

Let's talk about aircraft design for a moment to get a clearer picture. When the Air Force wants a new airplane, they tell the manufacturer what it has to be able to do. In the case of the B-52, Fred Boeing was told to build a high altitude, moderately fast, 2-G bomber. Two G's! The Air Force also wanted a big payload and long legs. To get that, Boeing (or any other company) had to minimize the empty weight of the airplane. A stronger airplane equals a heavier airplane. If you were told to build a 2-G airplane, would you build a 3-G airplane? No way!

Airplanes are flimsy structures by design. There is a certain safety margin, but **anytime** you exceed the design strength limit, you risk permanent structural damage or failure. The structural damage may be hidden, but it's there. And the airframe the manufacturer tested for strength was a brand new machine with no fatigue, no corrosion, and nobody's yanking and banking on it. Is that the same as your 28-year-old beast?

You might wonder why the max G decreases to 1.6 at 488,000 pounds. That's because the specified 2-G weight for the B-52 is 450,000 pounds. At 2-G's, the wings are lifting the equivalent of 900,000 pounds (450,000 x 2). Engineers call this the Load Limit Factor. As the aircraft goes above 450,000 pounds, the total wing load still must not exceed 900,000 pounds. By restricting the max G to 1.6 you will stay below the 900,000 pound limit.

Aha! That means at 300,000 pounds I can pull 3 G's (900,000 divided by 3) and 4 1/2 G's at 200,000 pounds! Great! Not so fast, Hormel. Although the wings and horizontal tail **should** be fine, other components are rated for 2 G's, period. Things like external tank mounts, landing gear uplocks, and in particular, engine mounts. Imagine watching the engines rip right off the wing while making your 4-G pull ... sooo ... 2 G's is the limit, period. No arguments.

Now, back to our story. Since you are certain you never pulled more than 2 G's, how did an over-G happen? First (and foremost) G-meters are notoriously unreliable and almost always underestimate the actual G load the airplane "sees." Second, you were rolling to the left when the damage probably occurred. This meant the airplane was pulling asymmetric, or "rolling" G's. When you roll while pulling G's, the upmoving wing has to develop more than its share of the lift required to keep the plane up. Even if the airplane is really pulling 2 G's, the right wing (in this case) is pulling more than 2 G's. The faster you roll, the worse this gets. With the error in the G meter and asymmetric G, you could easily do damage to the structure. It's a good thing the fighter quit when he did. One more hard turn like the last one and your crew could be making a nylon letdown.

The next time you think about yankin' and bankin' the old beast and think you can forget about the limits in the book, think again. The airplane was designed to a limit (when it was new), but nothing more. Respect the limits; your life depends on it!

Those Bells ...

Lt Col James Teigen
HQ SAC/IGFF

Thinking back on the whole event, I wish I had just kept my mouth shut. It had started out as such a simple question, on a beautiful spring day. "Does anybody know a good lawnmower repair shop around here?"

You'd have thought I'd just committed a mortal sin from the looks of all my fellow workers. "Why do you need a lawnmower repair shop?" It seemed an innocent question, but I'd soon regret answering it.

Why is it after explaining everything to one person the next shows up with a cup of coffee asking to hear the whole story all over again? After three renditions it got a lot shorter and more succinct. Basically, I couldn't get my lawnmower going after a long winter's rest.

Yes, I had checked the gas. Yes, I had oil. Yes, I had checked for a spark. Yes, even the spark plug looked okay. The questions were endless. Some didn't seem to fit the problem, but the stories that went with them eventually tied back into a problem Joe had with his lawnmower, chainsaw, et cet.

The consensus of the "experts of gas motors/engines" was that they could look at the lawnmower after work and solve the problem. Even though the alarm bell was going off in my head, I learned my lesson too late, and that's the rest of the story.

After work all three of us flight safety types descended upon my base house ready to "fix" my problem. Let's see, is there gas? Yep, (visual inspection proved) there was gas. How's the oil? Yep, (again visual inspection proved) there was oil. How about a spark? Sure enough, pulling off the spark plug wire and laying it right next to the spark plug top while the pull cord was pulled showed that there was a healthy spark present. Hummm, did you check your spark plug?

Well, sure I did. Let's pull this plug, I'll bet it's fouled. After removing the plug, it passed inspection. The three of us were baffled. Now's when the big guy decided that a few good pulls would start the mower. Brummpa, brummpa, brummpa. Nothing. I did notice that he was getting into pulling on that cord. Really getting some leverage. He had good form. But no luck, just brummpa, brummpa.

"Let me see that," said the tall one. As he bent his tall frame over the mower, he spied the primer pump. Aha! We'll just give this a couple of primes and it'll start. I had my doubts, as I heard my first of many brummpa, brummpas.

Now came my turn to pull. As you probably guessed, no joy.

I think at this point I again tried to ask for the name of a good lawnmower repair shop. It fell on deaf ears.

Watching experts in action is a powerful sight. Tools flying, sleeves rolled up, eyes squinting, and faces all scrunched up. Why is it that tools don't really work unless the tongue sticks out of the mouth?

Now as I looked at my lawnmower, I pondered my fate. The air filter was off, the mower was on its side and why do they want to look at the blade? Those bells were going off again ...

Hey guys, the gas is leaking out of the top of the tank. Yeah, yeah, they mumbled. I kept hearing "I wonder if ..." as it trailed off in volume. Those bells ...

Looks good to me, yep, looks like it should start. Those were heartening words. So now my mower is upright and the smell of gasoline is clinging to the air. We're ready.

Brummpa, brummpa, brummpa. Nothing.

How's the saying go ... desperate men in desperate times ...

Maybe it just needs a little gas in the carb. Novel idea. There go those bells again.

The object was to trickle or dribble the gas into the open throat of the mower carburetor. Okay, he got a little carried away. The gas filled the carb and gushed over the sides and onto the mower deck. (Have you ever noticed how the decks of mowers have deep grooves and are always filled with dead mower clippings/grass?) This effort to put "some" gas into the mower carb resulted in lots of gas in the carb and on the side of the engine, on the mower deck and some on the carport floor itself. Those bells ...

With the mower upright, the big guy stepped up for his turn. Brummpa, brumamampa, brup, brupp! POW!

Out of the carburetor throat came a tiny ball of flame. It was about the size of a golf ball. It didn't go far, just fell to the mower deck, plop!

You guessed it, it caught the gasoline-soaked grass on fire. Now we had some action. The mower still hadn't started, but the lawnmower was going, you know what I mean? The flames were only about six inches high, but completely encircled the motor.

I thought I had answered questions before but now was grilled with: where is your fire extinguisher, a hose, a bucket, blanket, towels? Meanwhile, I was trying to get the lawnmower moved from under the carport to out in the driveway (trying to save the base house).

I responded to all the questions with: don't have that, out at the base stable, base stable again, a blanket? In Mississippi in the spring? They're all in the cleaners for spring cleaning ...

"I'm calling the fire department," I said, and off I ran. Boy, am I glad they put those bright orange emergency phone number stickers on phones, I thought as I frantically dialed the fire department. Okay, slow down, talk slowly, and clearly.

I need to report a lawnmower fire.

This is my address, and my phone number. Please hurry.

Is that you, Capt T?

Yes, it is.

The Capt T from SAFETY?

Yes, please hurry.

Back outside, things were getting worse. The lawnmower had been moved away from the house and was now resting under a Magnolia tree. You should have seen the flames now. They completely covered the motor and were about a foot high. Burning pretty good now. Those bells ...

Around the corner comes a buddy with a bucket of water. Remember the cartoons where the character shows up at the fire but almost all the water has splashed out and all that's left is a drop...

Splash, Whoosh!

Boy, the flames got higher on that trip. Now the plastic gas tank was covered in flames. It's going to blow, and gas and Magnolia tree are going to go up in flames.

I ran over to the lawnmower and pulled it out into the street. I was lucky there were no branches, trees, cars, traffic and most importantly, no kids in my way.

Here came the next water brigade, a dog bowl. Splash, Whoosh!

As I turned around, back came the bucket, slowly. It was full of water. Stand back!

Splash, SSSSSSSS!

It was out. We had succeeded, but we looked terrible. The lawnmower was charred. The gas tank that had once been white was now blackened. The rubber fuel feed line had melted, and gas was still dripping onto the mower deck. We had been that close to conflagration.

I went back inside to call the fire department. You can cancel the fire alarm on the lawnmower. We put the fire out.

You mean you really had a fire?

Yes, but it's out now, thanks anyway.

As I got back outside, I could hear the first fire trucks, and all the sirens. Thank goodness they didn't bring the whole brigade.

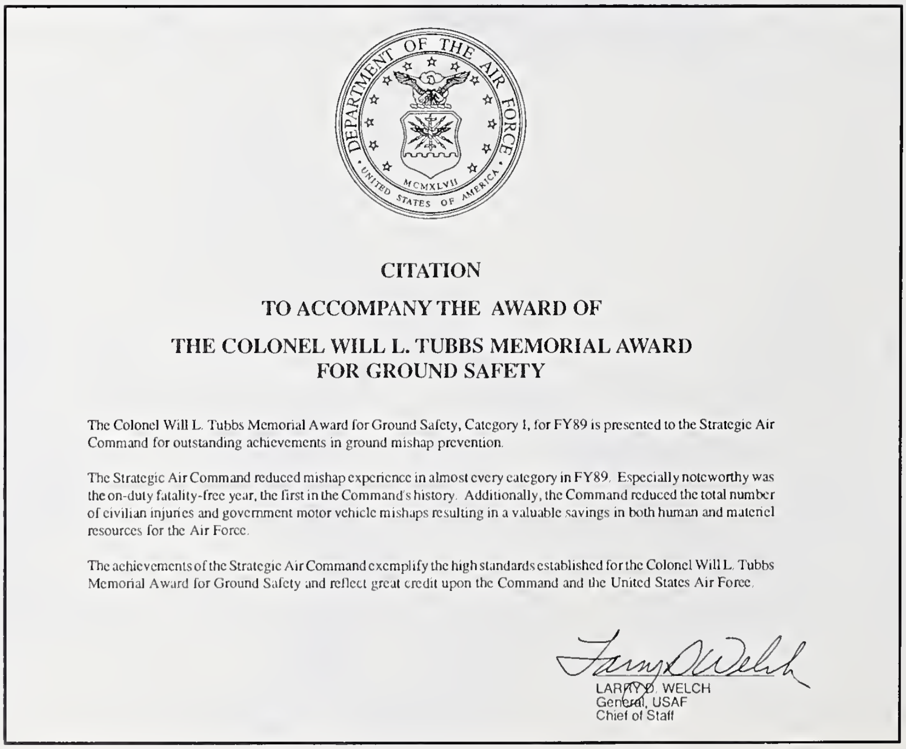
So what did I learn from all this? First, I now own fire extinguishers, one for the car, one for the kitchen and one out in the garage. Second, I take those problems that I can't solve to repairmen and don't bug my "friends" about them. Last, I tend to trust the ringing of the bells a lot more ...

The mower survived, but it was my luck the warranty ran out the week before the fire. The problem was minor, but the repair for fire damage was almost the cost of a new mower. Then I had to face CINC Kitchen ... Those bells ...

1990 Safety Awards

General Welch presents the Colonel Will Tubbs Award citation to General Chain earlier this year.

(Photo credits: TSgt Wm. Yates, 436 STS, Carswell, TX)



CITATION

TO ACCOMPANY THE AWARD OF

THE COLONEL WILL L. TUBBS MEMORIAL AWARD
FOR GROUND SAFETY

The Colonel Will L. Tubbs Memorial Award for Ground Safety, Category I, for FY89 is presented to the Strategic Air Command for outstanding achievements in ground mishap prevention.

The Strategic Air Command reduced mishap experience in almost every category in FY89. Especially noteworthy was the on-duty fatality-free year, the first in the Command's history. Additionally, the Command reduced the total number of civilian injuries and government motor vehicle mishaps resulting in a valuable savings in both human and materiel resources for the Air Force.

The achievements of the Strategic Air Command exemplify the high standards established for the Colonel Will L. Tubbs Memorial Award for Ground Safety and reflect great credit upon the Command and the United States Air Force.

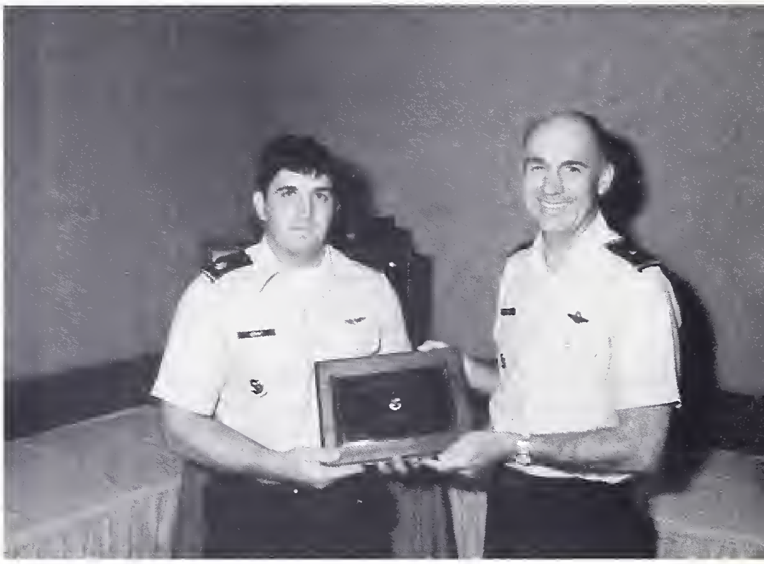
Larry D. Welch

LARRY D. WELCH
General, USAF
Chief of Staff

While FY 89 was a mixed selection of blessings in safety, one discipline set a record. Ground fatalities were significantly down for the period. As a matter of fact, the fatalities dropped fifty percent from the previous year which was itself a record setter. For this significant achievement, the Strategic Air Command received the Colonel Will Tubbs Memorial Award for Ground Safety. As Brigadier General James L. Vick, the SAC IG, said at the safety management course at Fort Worth, ground safety spans all the disciplines so all the warriors in SAC can take pride in earning this award.

The safety staffs from headquarters, the numbered air forces, air divisions, and wings convened this past April in Fort Worth for the SAC Safety Management Course. As part of the course, awards were presented to recognize

Brig Gen Vick, SAC IG, and Mr Gordon Reese, HQ SAC IGFG, hold the Colonel Will Tubbs Trophy after receiving it from Brig Gen Johnston, Director of Aerospace Safety at AFISC.



Brig Gen Vick presents the Outstanding Flight Safety Officer Plaque to Major James M. Cerney from the 93d Bombardment Wing at Castle AFB.

Brig Gen Vick presents a special trophy to the 93d Bombardment Wing for winning the Outstanding Safety Office Award.

1990 Sa

Brig Gen Vick presents the Outstanding Flight Safety NCO award to MSgt Keith O. Evans from the 9th Strategic Reconnaissance Wing at Beale AFB.

MSgt Jeffrey R. Barnhart from the 40th Air Division at Malmstrom received the Outstanding Weapons Safety NCO Award from Brig Gen Vick.

Brig Gen Vick presents the Outstanding Weapons Safety Officer plaque to Lt Melinda R. Hess, 384th Bombardment Wing at McConnell.

the outstanding efforts of several of the safety professionals in our midst.

The Outstanding Chief of Safety Award went, for the second consecutive year, to Major Guy J. Fritchman from the 40th Air Division, Malmstrom AFB.

This year, a distinction was made between the Chief of Safety for a wing or air division and the Chief of Safety for a tenant unit. As a result a new award category was created. Major Harold J. Davis from the 376th Strategic Wing, Kadena, is the first recipient of the Outstanding Tenant Chief of Safety Award.

The Outstanding Flight Safety Officer in the command for FY 89 is Major James M. Cerney, 93d Bombardment Wing, Castle AFB. The Castle Safety office also earned a place in the Safety record books by winning the Outstanding Safety Office Award

fety Awards

Brig Gen Vick presents the Outstanding Safety Technician Award to MSgt James M. Hammonds from the 1st Strategic Aerospace Division at Vandenberg.

Mr Henry O. Person from the 379th BMW at Wurtsmith received the Outstanding Safety Manager Award for FY 89 from Brig Gen Vick.

for the fourth consecutive year. In honor of the occasion, the wing received a unique trophy designed for the occasion.

The Outstanding Weapons Safety Officer in the command is Lt Melinda R. Hess, 384th Bombardment Wing, McConnell AFB.

The Outstanding Weapons Safety NCO Award was presented to MSgt Jeffrey R. Barnhart, 40th Air Division, Malmstrom AFB.

The Outstanding Safety Manager Award was presented to Mr Henry O. Person, 379th Bombardment Wing, Wurtsmith AFB.

The Outstanding Safety Technician Award went to MSgt James M. Hammonds from the 1st Strategic Aerospace Division, Vandenberg AFB.

We extend our congratulations to these warriors who have made significant contributions to our safety efforts.

Talk To Each Other!

Capt Pete Szabo
CFIC KC-135 IP

Throughout the command there is a new buzz word. A simple set of initials with a whole lot of meaning. That buzz word is CRM, which stands for Cockpit Resource Management. Currently, there is a program under development to aid us in better managing the cockpit. I am not sure what form this program will finally take, but there are things we can do now. After all, CRM is just a scientific approach to good crew coordination. What I will do is present a number of areas where we can improve or expand on our crew coordination. Now let's be honest here. There are many who pay lip service to crew

coordination and others who can expand on it. For those who adhere to the principles of good crew coordination, I hope to offer areas of interest to help build on what they have. So let's analyze a sortie from preflight to landing.

The preflight should be no big deal until problems with maintenance or weather become factors. Pilots, are you the types who have to work the problem and do all the talking to command post? Let the navigator tell the command post what is going on. Do you aircrew commanders encourage your fellow crew members to come up with options or do you do it all yourselves? Your other crew members are a valuable resource, do not smother their creativity. A good aircrew commander is one who lets the pilot set the pace of the crew and encourages ideas from all crew members. By encouraging active cockpit interaction you are able to sit back and keep the "big picture" in focus by managing your crew rather than replacing them. You are now more able to make well thought out decisions and everyone can have a sense of accomplishment. Aircrew commanders should not feel that this gives up power or makes them appear indecisive, on the contrary, you are actually using your crew to the fullest extent possible.

The pilots brief the takeoff data prior to takeoff. Navigators and boom operators, would you have any idea if any of those numbers were wrong? Do you keep ballpark figures in your head?

On takeoff, it is imperative that all the owner's manual procedures be followed. Some procedures have several ways of being accomplished. While all of us know how to insure that the yoke is full forward, how do you actually guard or teach to guard the throttles? There are numerous ways to guard the throttles, but what is ultimately important is that the throttles are controlled to prevent any from vibrating back, or in the case of an abort, that all four throttles are brought to idle. Navigators, if the pilots ever fail to make an S-1 or rotate call, will you make it? (Or is that something that could never happen?)

On climbout, many pilots like to say, "Anything after S-1 keep it to yourself until safely airborne and cleaned up." That, in all honesty, is a little egotistical. If an engine should fail at rotate, can you guarantee that your full attention will be focussed on flying the airplane? I can honestly say that the possibility of being distracted and having attention diverted to the failed engine instruments, even a little, is more than a remote possibility. Here is where the navigator and the boom operator can back you up with one word reminders like, "airspeed," (you got a little slow when you scanned the engine instruments); "altitude," (you started descending too); or "heading," (you have not put in enough rudder to cancel all the yaw.)

During level off, cruise, and air refueling there are many ways to back each other up. You can all help to keep tabs on ETA's, courses, and actual versus planned fuel, not to mention the fuel panel itself. Also, you can pay more than lip service to monitoring position, and letting the navigator know when your fix differs from the planned by more than a certain amount. Boom operators, during air refueling, do you give your pilots distance calls and let them know if you're going to swing the boom around?

Coming back to the field everyone on the crew who can, should listen to weather. Is the landing data understood by all? Navigators, you can give your pilots good backup with drift and ground speed information. Keep that backup going even if there is a FSA/CAS up front. Pilots, what are your techniques for backing up the pilot who is flying the approach and landing? Were all aware of sink rate, course and speed deviations? Did you tell the pilot flying the approach? Pilots, how many of you can say you make a conscious effort to keep one hand on the yoke and one hand behind the throttle quadrant for the unplanned go-around.

Navigators and boom operators, how steep an approach, how far off centerline, or how long a landing, would make you feel uncomfortable enough to say something? Think about it! Last, I hope that you all do some sort of safety check!

If you can answer any of these questions with "I don't know" or "I have no limit set," your crew is not communicating very well. There is no reason why the pilots cannot explain takeoff and landing data to the navigators and boom operators. Navigators, you can explain the intricacies of rendezvous and celestial navigation legs. Boom operators, there are numerous topics dealing with air refueling and your systems that the rest of the crew should know about. Now, more than ever, there is a very strong need to communicate. We hear time and time again from the field that talking about flying has all but "ground to a halt." Use the time that you have available on mission planning day or on alert to talk about these topics. What better way to improve your CRM than by learning about each others' job and applying it to future flights? Pilots, you can also take your navigators and boom operators to the simulator with you and practice this crew coordination during EPs. Have you ever seen an accident report that said, "Navigator error"? Think about it. We all know that the right words at the right time by other crew members have "saved our bacon" on more than one occasion.

The more we talk to each other the better we will fly together. This will not only make us safer crew members but better warriors as well. Remember, **fly the airplane!**

SAC INSTRUMENT FLIGHT COURSE

How Much Do You Really Know?

Capt Richard Baker
SIFC, Castle AFB

You don't have to go to exotic locales to find "weird" or confusing approaches. There are plenty of home-grown approaches that, even though you wouldn't call them "weird", at least raise interesting questions. We have two examples that fit this category to show you this month. These are bases you could easily fly to, so you could be faced with these approaches. Let's see what you know about them. You can find the answers and rationale on page 30.

Use the ILS RWY 17 approach at Plattsburgh AFB (fig 1) for questions 1 - 4.

1. Why did they publish geographic coordinates for the IAF?
   - **a.** It's just "nice-to-know" information.
   - **b.** To help you locate the IAF on charts.
   - **c.** It allows a RNAV certified aircraft to identify the IAF using RNAV equipment.
   - **d.** It allows a RNAV certified aircraft to fly the entire approach using RNAV equipment.
2. You have been directed to hold at the IAF. What will you use for course guidance in the holding pattern?
   - **a.** The localizer course.
   - **b.** You can use either TACAN or localizer.
   - **c.** TACAN.
   - **d.** RNAV equipment, since you can use it to identify the IAF.
3. The TACAN is not available today, so the localizer MDA is now 820 ft MSL. How is this going to affect how you fly the final approach segment?
   - **a.** No special considerations at all.
   - **b.** Compute a VDP for the new MDA and use it.
   - **c.** Use a 3.6 degree descent from the step-down fix.
   - **d.** When you reach 820 ft, abandon the IFR approach and request a visual approach.
4. On final the PLASI shows you on glide path, but the glide slope indicator shows you approaching 1 dot low. What is wrong?
   - **a.** The PLASI is faulty.
   - **b.** The glide slope indicator is faulty.
   - **c.** Nothing. It is within tolerance.
   - **d.** This is a trick question. Plattsburgh AFB doesn't have PLASI.

Use the VOR/DME or TACAN 1 RWY 7 approach at Key West NAS (fig 2) for questions 5 - 8.

5. Can you use TACAN station passage to define a fix?
   - **a.** Sure!
   - **b.** Never!
   - **c.** In this case, yes.
   - **d.** Only high altitude IAF's.
6. The visual approach path indicator here is the Fresnel Lens Optical Landing System (FLOLS). As

you proceed from the MDA to the runway, you notice that the "meatball" is not visible at all. What should you assume?

a. It's broken.
b. Increase the descent rate. You are high.
c. Assume you are below glideslope.
d. It's Navy equipment. Don't worry about it.

7. You have the "meatball" in its proper place now. You see a group of red lights flashing around it. What does this mean?

a. Check your landing gear down.
b. Decrease your descent rate. You are low.
c. Go around.
d. You are cleared to land.

8. As you begin the approach, ATC notifies you that the approach lights are inoperative. What do you do?

a. Divert. You must have approach lights.
b. Loss of approach lights doesn't affect anything.
c. Increase all visibility minimums by 1/2 mile.
d. Continue if the weather is at least 1500 ft and 3 miles visibility.

cont'd on page 30

Figure 1.

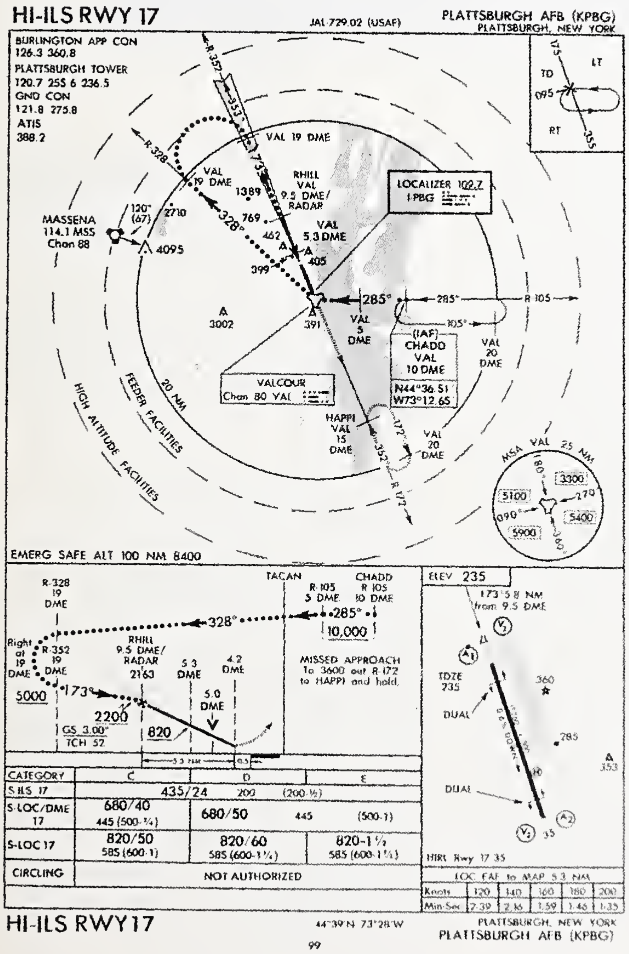
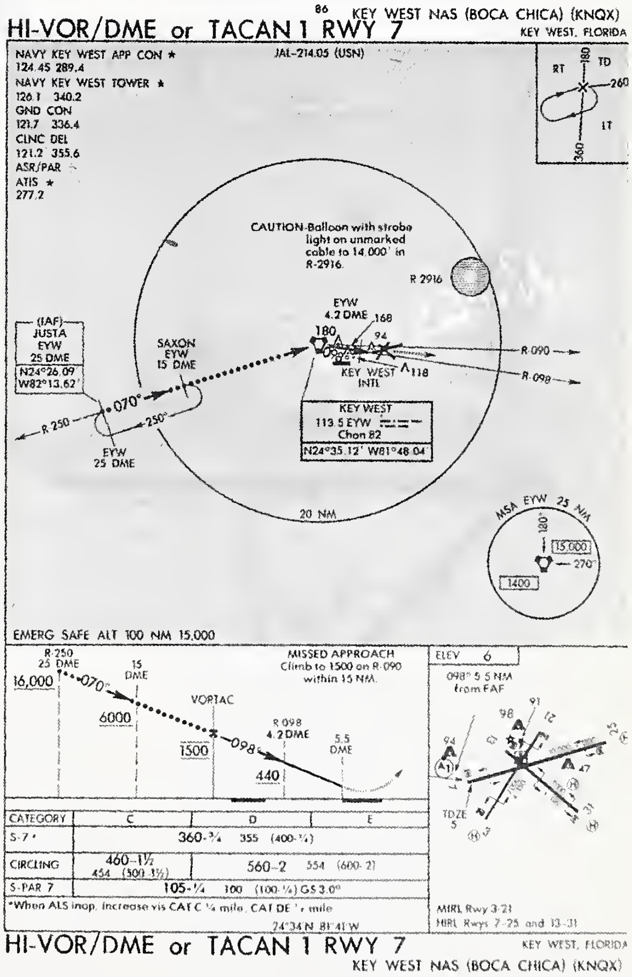


Figure 2.



PROFESSIONAL PERFORMERS

Missile Crew

The 44th SMW Crew R-092, consisting of 1Lt Dale W. Atkins, MCCC and 2Lt Cheryl A. Nell, DMCCC, is SAC's Missile Crew of the Month.

While on alert at Hotel launch control center (LCC), Lts Atkins and Nell experienced wild fluctuations in primary power and chattering and surging from the motor generator. The crew immediately positioned circuit breaker (CB) 14-16-18 to "Off" to prevent possible equipment damage. As CB 14-16-18 was set to "Off," the motor generator began winding down and smoke immediately filled the capsule. In total darkness, due to a complete power loss, the crew, working with flashlights, transitioned to the LCC Fire/Electrical Overheat checklist to isolate the fire condition. They shut down the LCC in accordance with their technical data and isolated the overheat. With emergency lighting restored, and no communications possible to topside personnel or other LCCs within the squadron, the crew released their timeslot and began preparing for evacuation of the capsule. At that time, primary power returned to the LCC. Although power had returned, lingering smoke was still a problem. The crew directed the facility manager to leave the Normal Environmental Control System operational, obtained a visitor control number from the flight security controller, and received permission from the squadron command post to open the blast door in an effort to clear the smoke out of the capsule and create a safe environment for continued crew operations. The crew then directed the facility manager to perform a systems check of topside equipment in an effort to determine the reason for the power failure. With communications with outside agencies restored, the crew then contacted the rest of the squadron and directed normal timeslot takeover/deletion actions, ensuring that optimum EWO preparatory command and communications assignments were made. The security situation that was called on Hotel for loss of contact was also canceled. The facility manager reported that there was no diesel malfunction and that the site was back on commercial power. The local power company could give no explanation for the power failure. The condition of the motor generator was quickly identified to 44 SMW job control where immediate action was taken to replace the faulty piece of equipment and restore the LCC to full operational capability. The superior leadership, professionalism and weapon system knowledge of Crew R-092 prevented serious electrical damage to the expensive and irreplaceable equipment in their capsule, while maintaining the safety of all personnel present.

2Lt Cheryl A. Nell and 1Lt Dale W. Atkins

Munitions Maintenance

Sgt Robert A. Gartner, 96 BMW, Dyess AFB, is SAC's Munitions Airman of the Month. As the missile maintenance section trainer, Sgt Gartner played a key role in the preparation for the recent MSET visit. His expertise and leadership were critical elements in refurbishing the extensive support and handling equipment assigned to the shop. His work resulted in an "Excellent" rating in the mission equipment category for the branch.

As a section supervisor, Sgt Gartner is tasked as a production inspector for 180-inch launcher buildups for the Short Range Attack Missile (SRAM) stockpile. His efforts have consistently resulted in superb ratings from inspection teams. Both the Inspector General team and the MSET team rated the SRAM stockpile "Excellent" during their inspections in 1989. These results can only be accomplished by meticulous inspection procedures and extensive systems knowledge.

Sgt Gartner was deeply involved in the SRAM live launch during May 1989. This launch was the first ever from the AFT Weapons Bay of a B-1B and was the first to use the half-deployed weapons bay spoiler. Sgt Gartner oversaw the missile preparations which included a missile wiring harness replacement within the guidance section which usually requires four to five days of work. The wiring harness was replaced in three days with Sgt Gartner's leadership.

Aircraft Maintenance

A1C Darrell K. Amoruso, 6 SRW, Eielson AFB, is SAC's Maintenance Airman of the Month. Airman Amoruso performs routine, scheduled, and isochronal phase maintenance on the one-of-a-kind RC-135X Cobra Eye, the RC-135S Cobra Ball, and the assigned TC-135S aircraft. In addition, he is a maintenance team member on the RC-135V/W model aircraft temporarily assigned to Eielson 15 to 20 days a month, and the Alaskan Tanker Task Force KC-135A and R-model aircraft.

On 20 September 1989 while assisting in the ground maintenance of a KC-135A aircraft refuel, a 168th Air National Guard KC-135E aircraft exploded and started to burn within 100 yards of his aircraft. With little regard for his own personal safety, A1C Amoruso immediately prepared and assisted in towing his aircraft from the danger zone. He then continued to assist others in removing valuable equipment and other aircraft from the area. For his actions of dedication above and beyond the call of duty, A1C Amoruso was personally presented the Air Force Commendation Medal by Lt Gen Burpee, 15AF Commander.

On a recent phase of the RC-135S Cobra Ball, Amn Amoruso discovered a 15-inch crack in the aircraft's right lower air conditioner and mixer ducting cavity.This major find prevented this nationally vital reconnaissance aircraft from possible catastrophe and loss of human life.

ICBM Maintenance

Sgt Norman F. Hasenauer, electro-mechanical team (EMT) instructor, 90 SMW, Francis E. Warren AFB, is SAC's ICBM Maintenance Technician of the Month. Sgt Hasenauer was hand-picked to receive civilian contractor training on the installation of the portable IPD modem. Through Sgt Hasenauer's superior training skills, his most recent initial class received six Highly Qualified and eight Qualified grades after his training. Sgt Hasenauer maintains a 100 percent pass rate on all wing and higher headquarter codes testing. He spearheaded the major rewrite of all 88 Minuteman lesson plans. Sgt Hasenauer has conducted tours of the training LF for numerous distinguished visitors including the Assistant Secretary of Defense. Sgt Hasenauer also prepared a maintenance activities video in support of Armed Forces Day. This video was the centerpiece during the Armed Forces Day festivities and his efforts enhanced the image of the Air Force in the local civilian community.

Sgt Robert A. Gartner

A1C Darrell K. Amoruso

Sgt Norman F. Hasenauer

cont'd from page 27

Answers. Don't Start Here!

1. C. AFM 51-37 para 6-12c(2). The published geographic coordinates allows an RNAV certified aircraft to navigate to and identify the IAF using RNAV criteria. The coordinates have to be published to do this, though. You cannot pull them off an aeronautical chart yourself. The U.S. Air Force has not yet adopted RNAV approaches so we are restricted from using RNAV equipment to identify any point past the IAF.

2. C. Both the plan and profile views show the holding course as defined off the VAL 352 degrees Radial. You are allowed to identify the IAF using RNAV, but you cannot use the lat/long coordinates for holding. This is a recent interpretation of AFM 51-37 made by USAF IFC; change three to AFM 51-37 will reflect this. You must use the navigational aid or facility used to define the holding pattern. In this case that is the TACAN. The same philosophy applies to the enroute phase. If you are flying on an airway by ground based navaids, they are the primary means for identifying the fixes. RNAV is the primary means of navigation for RNAV routes and could be used for random navigation.

3. C. If you answered "A" take half credit. There's nothing special about flying the approach to a new MDA. But landing could be another story. The descent gradient from 820 ft to the threshold is 450 ft/nm if you descend at the published VDP of 5.0 DME. That's more than what our normal gradient should be. The new VDP is about 2 NM from the threshold or 5.7 DME (585 divided by 300 = 1.95). That's .4 NM prior to the stepdown fix! How are you going to work this out? If you request a visual approach in order to descend below 820 ft prior to the stepdown fix (answer d), you are betting a whole lot that you will be able to avoid whatever obstacle the fix is based on. A better solution is to fly one descent gradient from the stepdown fix to the threshold. This equates to a 3.0 degree descent. (585 divided by 1.6 =366 ft/NM). This is greater than the standard 2.5 to 3.0 degree descent, and it leaves you high passing the normal VDP (for a MDA of 680 ft), but it is better than departing MDA prior to the step-down fix and taking a chance with the obstacle.

4. C. AFM 51-37 para 14-3e(5). Yes, Plattsburgh does have PLASI. The on-glidepath-steady-white light is an angular wedge of one third of a degree wide. On the ILS glide slope indicator, this equates to approximately 1 1/4 dots above or below glidepath.

5. C. AFM 51-37 para 9-3b NOTE. TACAN station passage as a fix is not acceptable for holding fixes or high altitude initial approach fixes. With the exception of holding, a TACAN can be used to define a fix on a low altitude IAP.

6. C. AFM 51-37 para 14-3f WARNING. Whenever you are more than .75 degrees above or below the glideslope the meatball disappears. If you are in doubt you should assume you are below glideslope.

7. C. AFM 51-37 para 14-3f. These are called the wave-off lights. If you see them flashing, tower is directing you to go around. These lights are not normally visible except when activated by the tower.

8. C. In this case the answer is given on the approach plate. A note at the bottom tells you to increase the visibility minimums by 1/2 mile for inoperative approach lights. No light minimums have been developed for all approaches. They are not always listed on the approach plate, though. The NOTAM showing the approach lights to be inoperative would have the new minima. Also, the ATC controller could provide them.

Some of these questions you may have been able to answer easily or at least you knew where to find all the information. Other questions required more digging or thought. The whole point here is when you are heading for a strange field you really need to study the approaches. Mission planning day is the time to think of these questions and get them answered. The strange field familiarization guide in SACR 50-12 provides good guidelines for reviewing these items. Give us a call at AV 347-4571 with any questions. Till next time. **Fly Smart. Fly Safe.**

SAC SAFETY SCREEN

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system IAW AFR 127-2/SS1.

6 AREFS, March Crew E-032: IP Capt Mike Ethridge, P Capt Keith Kent, FE TSgt David Litherland, BO SSgt Jeffrey Harp

6 AREFS, March Crew E-034: IP Capt Mike Povinelli, P Capt John Williams, FE TSgt Bill Chin, BO SSgt Jack Fortner

11 AREFS, Altus Crew R-112: AC Capt Stephen Ragland, P 1LT Glenn Howard, N Capt Larry Fahy, BO A1C Dominic Peterson

306 AREFS, Altus Crew E-170: AC Capt Mavis Compagno, P 1Lt Jim Alexander, N Capt Dave Whisenand, BO A1C Frank Antonsen

91 AREFS, Malmstrom Crew R-125: AC Capt Stephen R Smolen, P Capt Lynn M Steer, N 1Lt Martin G Oliver, BO Sgt Allan R Wesemann

2 ACCS, Offutt Crew E-115: IP Maj Eugene F Barton, P Capt Charles D Lutes, N 1Lt Ronald L Addicott, BO SrA Kenneth Gilbertson

376 SW, Kadena Crew R-131: AC Capt Alan Worley, P 1Lt Wesley C Reed, N 1Lt Steven E Mother, BO A1C Shawn M Hughes

376 SW, Kadena Crew E-111: AC Capt Larry E Paly, P Capt Thomas J Swiderek, N Maj Kevin E Best, BO Sgt Gerry T Slusher

128 AREFG, Gen Mitchell IAP, Milwaukee: Lt Col George J Grubis, 1Lt Theordore N Kerschner, Maj Rod M Langford, SSgt Mark B Lipinski

321 SMW, Grand Forks Crew R-011: MCCC 1Lt Paul R Warren, DMCCC 2LT Hans R Augustus

90 SMW, F E Warren Crew R-024: MCCC 1Lt Daniel J Miller Jr, DMCCC 2Lt Lori L Rothe

90 SMW, F E Warren Crew S-221: MCCC Capt Steven W Martin, DMCCC 1Lt Matthew S Clifford

341 SMW, Malmstrom Crew R-174: MCCC 1Lt Gregory A Heidloff, DMCCC 2Lt Richard K Huff

341 SMW, Malmstrom Crew R-174: MCCC 1Lt Matthew M Spencer, DMCCC 2Lt Ivan Oviedo

351 SMW, Whiteman Crew R-101/S-110: MCCC 1Lt Michael T Ward, DMCCC 2Lt Kathleen M Taylor

351 SMW, Whiteman Crew E-041: MCCC 1Lt Roger Westermeyer, DMCC 1Lt Kurt Searfoss

351 SMW, Whiteman Crew S-110: MCCC Capt Bryan L McLendon, DMCCC 1Lt William G White

325 BMS, Fairchild Crew R-13: AC Capt Kent Dudley, P 1Lt Paul D Harper, RN Capt Mark Ford, EW 1Lt Patrick S Dugan, G A1C Patrick J O'Connor

325 BMS, Fairchild Crew E-35: AC Capt Donald W Thompson, P Capt Norman B Adams, RN Maj Larry J Reasoner, N Capt Michael M Sharp, EW 1Lt Wayne L Shaw III, G SSgt James M Putman Jr

325 BMS, Fairchild Crew R-11: AC Capt Derek B Riggan, P 1Lt Jesse E Ward IV, RN Lt Col Bill B Keith, N 1Lt Peter S Volz, EW Capt Vernon L Moore, G Sgt Allen L Gray

325 BMS, Fairchild Crew R-21: AC Maj Lynn M Hollerach, P Capt Nolan R Elliott, RN Capt Terry M Martin, N 1Lt Steven E Mazier, EW Maj Michael E Wright, G Sgt Robert Martinez

43 AREFS, Fairchild Crew R-111 AC Capt Gregory A Bulkley, P 1Lt Cristos Vasilas, N 1Lt Ben M Thielhorn, BO SrA Richard L Rodriguez

43 AREFS, Fairchild Crew R-120: AC Capt Frank P Perrino, P 2Lt John S Fenske, N Capt Dorothy E Simpson, BO Amn Jephrey T Richardson

92 AREFS, Fairchild Crew R-174: Capt John C Graves, 2Lt Louis D Franchino, Capt Eric D Johnson, A1C Clifford F Bermodes

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Explosives Safety
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1989

PLANT

FY89 USAF
Safety Awards

Flight Safety Plaques
2nd Bombardment Wing
5th Bombardment Wing
6th Strategic Reconnaissance Wing
22nd Air Refueling Wing
93rd Bombardment Wing
97th Bombardment Wing

Missile Safety Plaques
1st Strategic Aerospace Division
2nd Bombardment Wing
91st Strategic Missile Wing
319th Bombardment Wing
341st Strategic Missile Wing
379th Bombardment Wing
410th Bombardment Wing

Nuclear Surety Plaques
90th Strategic Missile Wing
96th Bombardment Wing
321st Strategic Missile Wing
379th Bombardment Wing
384th Bombardment Wing

Explosives Safety Plaques
1st Strategic Aerospace Division
97th Bombardment Wing
90 Strategic Missile Wing